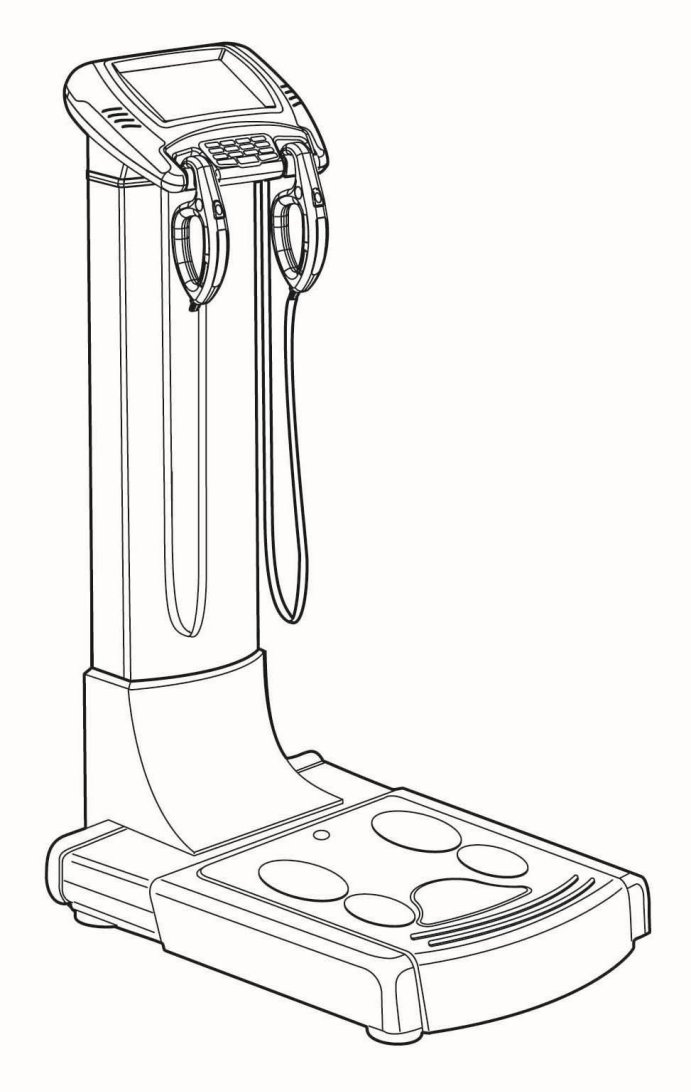
X-SCAN PLUS 950

Leading Health Trend

BODY COMPOSITION ANALYZER
User Manual



Body Composition Analysis
- Intra/Extra Cellular Water
- Total Body Water
- Protein
- Mineral
- Body Fat Mass
- Prediction of Abdominal Fat
- Fatness

Abdominal Analysis
- WHR (Waist to Hip Ratio)
- Visceral Fat Level
- Visceral Fat area
- Subcutaneous/Visceral fat mass

Body Type
- Percent Body Fat
- BMI (Body Mass Index)
- Table of Body Type

Energy Expenditure
- BMR (Basal Metabolic Rate)
- TEE (Total Energy Expenditure)

Segmental Assessment

Edema Assessment

Target to Control

Impedance

Age Matched of Body

Blood Pressure

CE 0197

The device bears the CE label in accordance with the provisions of Medical Device Directive 93/42/EEC.

THE PERSONS RESPONSIBLE FOR PLACING DEVICES ON THE EC MARKET UNDER MDD 93/42/EEC

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INTRODUCTION

We highly appreciate that you chose our company's product.
You are kindly requested to be familiar with these directions before using this product and always keep it together with the product. In case you are not sure about any directions or problems arising while using the product, please contact our service center.
We will provide you with detailed instructions.

1. INTENDED USE

This device measures impedance by bioelectrical impedance analysis method and provides lots of information using measured impedance and inputted personal data (height, age, gender, weight).
It shows body composition of MBF, LBM, SLM, SMM, TBW, protein mass, mineral mass, etc. and information regarding BMI, PBF, BMR, abdominal analysis, Target to control, segmental analysis, Body composition change, etc.

2. WORD DEFINITIONS

To ensure safe operation and long term performance stability, it is essential that you fully understand the functions, operating and maintenance instructions by reading this manual before operating your unit.
Particular attention must be paid to all warnings, cautions and notes incorporated herein.
The following conventions are used throughout the manual to denote information of special emphasis.

Warning	"Warning" indicates important information about the presence of a hazard which may cause severe personal injury, loss of substantial property, damage if the warning is ignored.

Caution	"Caution" indicates important information about the presence of a hazard which may cause minor personal injury or property damage if the caution is ignored.

Note	"Notice" indicates important information in order to notify installation, operation or maintenance of this device. "Notice" is important but not hazard-related. Hazard warnings are not included here.

3. CLASSIFICATION AND COMPLIANCE

1) This device is classified as;
   - Class 1 type-BF against electric shock
   - Ordinary equipment without protection against ingress of water
   - Equipment not suitable for use in presence of a flammable anesthetic mixture by standard of EN 60601-1: 2006(Basic safety and essential performance of Medical Electrical Equipment)
2) This device is complied with Class A for Noise-Emission, Level B for Noise-immunity, by standard of IEC 60601-1-2:2007(Electromagnetic Compatibility Requirements).

4. SAFETY PRECAUTIONS

This device is designed and manufactured with consideration of the safety of the operator and subject and also the reliability of the unit.

The following warnings, precautions and notes must be observed for safety;

Warning	During measurement of the body composition, a microcurrent of 180μA flows through the body. Individuals who have any kind of implanted active medical devices, such as pacemakers, should not use this equipment because the microcurrent can cause malfunction in the implanted device.

Warning	To prevent fire hazard, use only a correctly wired (100-240VAC) outlet, and do not use a MSO(Multiple Socket Outlet) that is not in compliance with IEC 60601-1.

Warning	To reduce the risk of electric shock or product damage, never plug-in or plug-out with wet hands.

Warning	Physically disabled persons should not attempt to take measurements alone, but instead should have their caretakers assist them in using the device.

Caution	The unit must be operated only by, or under supervision of a qualified person with our company or our distributors.

Caution

If you have experienced any trouble with the unit, switch it off immediately, and contact our company or its authorized dealer for assistance.

Caution

If you plan to connect any device from other manufacturers electrically or mechanically to the unit, contact our company or its authorized dealer for instructions before doing so.

When you connect computer or other system to the unit (RS-232C), the attached systems should be those certified by IEC 950 or equivalent standards for data processing equipment.

Configurations shall comply with the system standard EN 60601-1:2006.

Everybody who connects additional equipment to the signal input part or signal output part configures a medical system by standard EN 60601-1:2006.

If in doubt, consult the A/S department of local distributor.

Caution

Avoid the following environments for storage;

- Where the ambient temperature falls below -25°C or exceeds 70°C.
- Where the atmospheric pressure falls below 70kPa (700mbar) or exceeds 106kPa (1060mbar).
- Where the humidity is over 93% non-condensing.
- Where the unit is exposed to spray or splashing water.
- Where the unit is exposed to dust.
- Where the unit is exposed to water vapor.
- Where the unit is exposed to salty atmosphere.
- Where the unit is exposed to explosive gas.
- Where the unit is exposed to excessive shocks or vibrations.
- Where the angle of inclination of mounting surface exceeds 10 degrees.
- Where the unit is exposed to direct sunlight.

Caution

This device needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the ACCOMPANYING DOCUMENTS.

Caution

Cross contamination is possible because this equipment is used with bare hands and feet. Refer to the cleaning and disinfecting methods in this manual.

Caution	Measurements may be impaired if this device is used near televisions, microwave ovens, X-ray equipment or other devices with strong electrical fields. To prevent such interference, use the meter at a sufficient distance from such devices or turn them off.

Prohibition	Do not disassemble or alter the device under any circumstances, as this could result in electric shock or injury as well as adversely affect the precision of measurements. This device is specified as Class 1 type BF unit under the standard EN 60601-1: 2006(Basic safety and essential performance of Medical Electrical Equipment). Therefore, patients must not touch or handle inner side of the system at any time.

Prohibition	Do not to touch signal input, signal output or other connectors, and the patient simultaneously.

Prohibition	The unit has previously been adjusted in the factory for optimum performance. Do not attempt to adjust switches or any other things except those specified in this manual for operation.

Prohibition	Never pour any liquid directly on the scale platform, as it may leak and cause internal damage..

Prohibition	Never jump on the Weighing Platform, there may be a risk of stumbling and malfunction of the equipment.

Note	This equipment has been tested and found to comply with the limits for medical devices according to IEC 60601-1-2:2007. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the

	vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: - Reorient or relocate the receiving device. - Increase the separation between the equipment. - Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected. - Consult the manufacturer or field service technician for help.

Note	Place the Weighing Platform on a level and stable surface. If the equipment is used when the Weighing Platform is unstable because not all feet are on the surface, there may be a risk of stumbling or inaccurate measurement.

Note	Note that portable and mobile RF communications equipment can affect MEDICAL ELECTRICAL EQUIPMENT.

Note	Consult a physician or a trained health professional for interpretation of measurement results.

Note	In case of patients who have certain diseases, the estimates might be different.

Note	Incorrect operation or failure of user to maintain the unit spares the manufacturer or his agent of the responsibility for system's non-compliance with specifications or responsibility for any damage or injury. This manual is made for informational purposes and this manual and product are not meant to be a substitute for the advice provided by your own physician or other medical expert. You should not use the information contained in the product for diagnosis or treatment of health problems or prescription of medication by yourself. If you have or suspect that you have a medical problem, consult with your physician promptly.

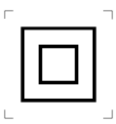
	Defective units or accessories must be packed in the replacement cartons to be shipped off from you to our company. Shipping and insurance costs for return of defective unit must be prepaid by the users.

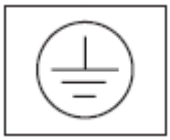
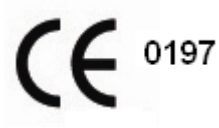
Caution 	Measurements may be impaired if this device is used near televisions, microwave ovens, X-ray equipment or other devices with strong electrical fields. To prevent such interference, use the meter at a sufficient distance from such devices or turn them off.

Note 	Incorrect operation or failure of user to maintain the unit spares the manufacturer or his agent of the responsibility for system's non-compliance with specifications or responsibility for any damage or injury. This manual is made for informational purposes and this manual and product are not meant to be a substitute for the advice provided by your own physician or other medical expert. You should not use the information contained in the product for diagnosis or treatment of health problems or prescription of medication by yourself. If you have or suspect that you have a medical problem, consult with your physician promptly. Defective units or accessories must be packed in the replacement cartons to be shipped off from you to our company. Shipping and insurance costs for return of defective unit must be prepaid by the users.

5. SAFETY SYMBOLS AND INFORMATION

The International Electro-technical Commission (IEC) has established a set of symbols for medical electrical equipment which classify a connection or warning of any potential hazard. The classifications and symbols are shown below. Save these instructions for your safety.

	Degree of protection against electric shock: TYPE BF
	Please observe operating instructions
	General warning sign
	General prohibition sign
	General mandatory action sign
	Caution
	Waste Electrical and Electronic Equipment (WEEE) The device could be sent back to the manufacturer for recycling or proper disposal after their useful lives. Alternatively the device shall be disposed in accordance with national laws after their useful lives.
	"ON / OFF" key : Turn the power ON / OFF
	Class II equipment

	This symbol is used inside system. Identifies the point where the safety ground of the system is fastened to the chassis.
	Do not open. This is for factory only.
	Alternating current
	Direct current
	Date of manufacture
	Manufacturer
	Non-ionizing radiation
	CE mark
	Serial No.
	Authorized representative in the European community.
	Keep dry
	For indoor use only
	RoHS2

6. Guidance for Electromagnetic compatibility (EMC)

Details about the electromagnetic compatibility (EMC) of the X-SCAN PLUS 950 are given below. Before using the X-SCAN PLUS 950, be sure to read and understand the following information.

1) Guidance and manufacturer's declaration – electromagnetic emissions

The X-SCAN PLUS 950 is intended for use in the electromagnetic environment specified below. The customer or the user of the X-SCAN PLUS 950 should assure that it is used in such an environment.

Emissions test	**Compliance**	**Electromagnetic environment – guidance**
RF emissions CISPR 11	Group 1	The X-SCAN PLUS 950 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The X-SCAN PLUS 950 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Compliance	

2) Guidance and manufacturer's declaration – electromagnetic immunity

The X-SCAN PLUS 950 is intended for use in the electromagnetic environment specified below. The customer or the user of the X-SCAN PLUS 950 should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance
Electrostatic discharge(ESD) IEC 61000-4-2	±6kV: Contact ±8kV: Air	±6kV: Contact ±8kV: Air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transition/burst IEC 61000-4-4	±2kV: Power supply lines ±1kV: Input/output lines	±2kV: Power supply lines ±1kV: Input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage drops, dips, and fluctuations of input power supply line IEC 61000-4-11	<5 % *U*T (>95 % dip in *U*T) for 0,5 cycle 40 % *U*T (60 % dip in *U*T) for 5 cycles 70 % *U*T (30 % dip in *U*T) for 25 cycles <5 % *U*T (>95 % dip in *U*T) for 5 sec	<5 % *U*T (>95 % dip in *U*T) for 0,5 cycle 40 % *U*T (60 % dip in *U*T) for 5 cycles 70 % *U*T (30 % dip in *U*T) for 25 cycles <5 % *U*T (>95 % dip in *U*T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the X-SCAN PLUS 950 requires continued operation during power mains interruptions, it is recommended that the X-SCAN PLUS 950 be powered from an uninterruptible power supply or a battery.
Magnetic field	3 A/m	3 A/m	Power frequency magnetic fields

of commercial frequency (50/60Hz) IEC 61000-4-8			should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Note

*U*T is the a.c. mains voltage prior to application of the test level.

3) Guidance and manufacturer's declaration – electromagnetic immunity 2

The X-SCAN PLUS 950 is intended for use in the electromagnetic environment specified below. The customer or the user of the X-SCAN PLUS 950 should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance
			Portable and mobile RF communications equipment should be used no closer to any part of the X-SCAN PLUS 950, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	**Recommended separation distance** $d = 1.2\sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	3 V/m	$d = 1.2\sqrt{P}$ 80 MHz to 900 MHz $d = 2.3\sqrt{P}$ 900 MHz to 2,5 GHz where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and *d* is the recommended separation distance in meters (m).

			Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,[a] should be less than the compliance level in each frequency range.[b] Interference may occur in the vicinity of equipment marked with the following symbol:

Note

1. At 80 MHz and 900 MHz, the higher frequency range applies.

2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

[a] Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the X-SCAN PLUS 950 is used exceeds the applicable RF compliance level above, the X-SCAN PLUS 950 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the X-SCAN PLUS 950.

[b] Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communications equipment and the X-SCAN PLUS 950

The X-SCAN PLUS 950 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the X-SCAN PLUS 950 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the X-SCAN PLUS 950 as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	**Separation distance according to frequency of transmitter** m		
	150 kHz to 80 MHz $d = 1.2\sqrt{P}$	**80 MHz to 900 MHz** $d = 1.2\sqrt{P}$	**900 MHz to 2,5 GHz** $d = 1.2\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.			

Note

1. At 80 MHz and 900 MHz, the separation distance for the higher frequency range applies.
2. These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

ABOUT BODY COMPOSITION

1. Body Composition

Human body consists of body fat and lean body. Lean body means non-fat constituents of human body like body water, muscles, mineral, etc.

Body water is divided into intra- and extra-cellular water and the ratio between them is controlled and maintained within a certain range. Body fat is piled beneath the skin and between abdominal organs. Body fat is hydrolyzed to make energy needed to normal physiological function when energy supply through food intake is not sufficient, but excessive fat in the body itself is a kind of disease and causes lifestyle diseases.

Healthy people maintain the balance of body composition in a steady proportion but unhealthy people persons fail to keep this balance. When the balance in body composition is broken, diseases like obesity, malnutrition, osteoporosis, etc. can be caused.

2. Obesity

Various methods can be used to assess obesity but the key factor in obesity assessment is the amount of fat accumulated in the body.

In general, obesity is defined as the state of not only excessive weight compared with height (visible obese) but also excessive body fat compared with weight (invisible or visible obese). Strictly speaking obesity is the state that body fat occupies considerably high ratio to weight.

3. Necessity of Body Composition Analysis

Body Composition Analysis is a good indicator in finding possible health problems. Body composition analysis enables professionals to find obesity or imbalance in body composition at an early stage and helps subjects keep their body healthy.

4. Waist to hip ratio

Waist to hip ratio (W.H.R.) shows the distribution of fat stored in one’s abdomen and hip. It is simple but useful to assess body fat distribution. Body fat is stored in two distinct ways. They are often categorized into and called 'apple' and 'pear' type. Apple type shows bigger girth of waist than hip and pear type has bigger girth of hip than waist. If body fat in abdomen increases more, the risk to cardiovascular diseases, diabetes, etc. becomes higher.

5. Abdominal Fatness

Body fat is divided into subcutaneous fat and visceral fat. Visceral obesity is considered to be a critical risk factor along with Percentage of body fat.

Lipoprotein lipase can be easily activated in visceral fat, and it causes visceral fat to be dissolved easily. Dissolved visceral fat goes into liver through the blood vessel and causes fatty liver or increases lipid in the blood. It also elevates the risk of hyperinsulinemia,

hypertension, and cardiovascular disease.

Visceral fat generally occupies 10 ~ 20 % of body fat and visceral obesity is assessed based on the indicators below.

- the cross sectional fat area between L4 ~ L5 is 100 cm^2 and over
- the visceral fat to subcutaneous fat ratio is 0.4 and over
- the waist to hip ratio (W.H.R.) is over 0.9 (male) / 0.85 (female)
- the circumference of waist is over 102 cm/45 inches (male) _ 88 cm / 35 inches (female)

Visceral fat increases after 30s in men and after Menopause in women. It is more common in men than women and the old than the young. Visceral fat tends to increase with aging. Because the combustion rate per minute of visceral fat is higher than that of subcutaneous fat, visceral fat can be easily reduced by exercise or dietary control in case of abdominal obesity. W.H.R. is the ratio of waist to hip circumference and has relation to one's figure.

6. Segmental Analysis

This device analyzes soft lean mass, body fat mass, total body water and E.C.W./T.B.W. of five body parts; trunk, right arm, left arm, right leg, and left leg. This function can be used as an assessment tool to evaluate the result of exercise or rehabilitation treatment.

7. Age Matched of Body

It is the estimated physical age of the subject considering body composition analysis result, gender, and biological age. This is calculated by comparing the optimal body composition based on the gender and biological age of the subject with the actual analyzed body composition. It can be used to evaluate the subject's health and body development.

8. Study

It is the provided impedance.

Impedance indicates the segmental impedance of five body parts (left and right arms, left and right legs, and trunk) corresponding to each frequency (1~ 1000 kHz).

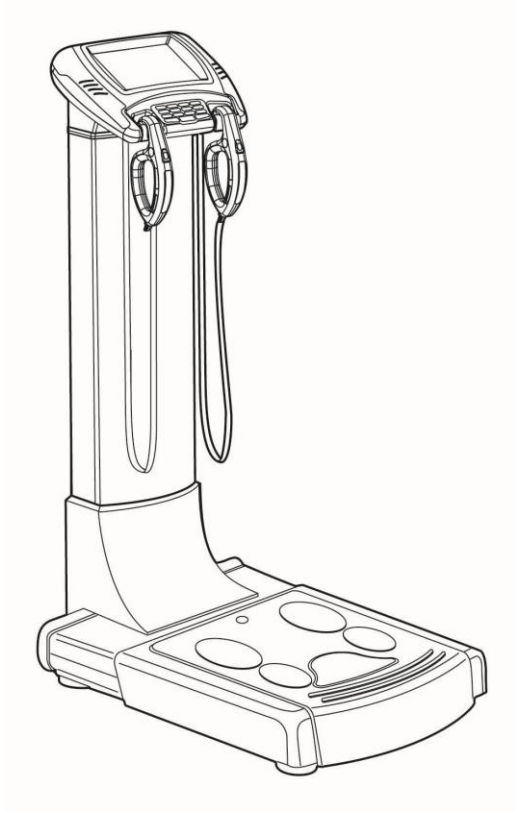
TERMS OF EACH PART AND FUNCTION

1. Main Parts

The main system of X-SCAN PLUS 950 consists of as follows.

① Main body
② User manual
③ Adapter
④ USB Cable
⑤ Data management program
⑥ Bolts
⑦ 5mm L-wrench
⑧ Body Cover
⑨ Bluetooth

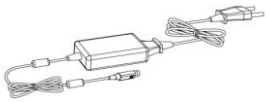
① Main body



② User manual

⑥ Bolts

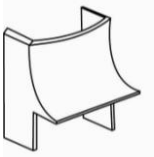
③ Adapter



⑦ 5mm L-wrench

④ USB Cable

⑧ Body Cover



⑤ Data management program

⑨ Bluetooth

※ Model or specification of accessories can be changed according to market supply and demand.

2. Options

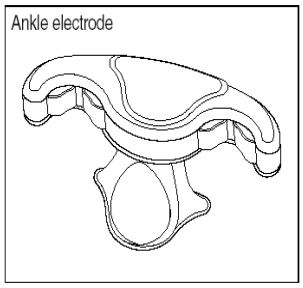
1) Ankle electrodes AE-202

Convenience: can measure with one's socks or stockings on.

① Selectivity: can choose either plate electrodes or ankle electrodes.

② Hygienic: protects from mold or bacteria

③ High accuracy: analyzes more accurately for the person whose sole is corneous

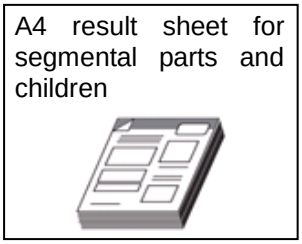


2) Professional health counseling support software

This program helps managing body composition easily and systematically. It shows the core items needed to control body composition. The items include measured body composition, dietary control plan, exercise plan, etc. If the device is connected to blood pressure monitor, it also indicates the measurer's blood pressure.

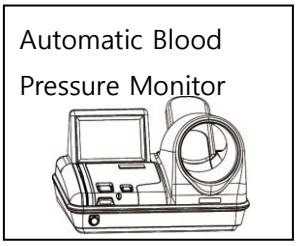
3) A4 result sheet for segmental parts and children

It shows the segmental results and children growth curve to make users easily understand the condition of 5 body parts and the growing state of children.



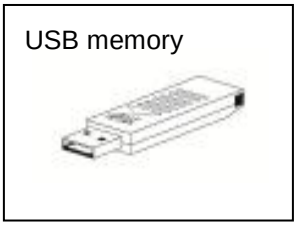
4) Automatic Blood Pressure Monitor

If Jawon's automatic blood pressure monitor for hospital is connected to this device, the measurer can easily check his/her blood pressure. Especially the patient with hypertension may be able better manage his/her blood pressure through weight control.



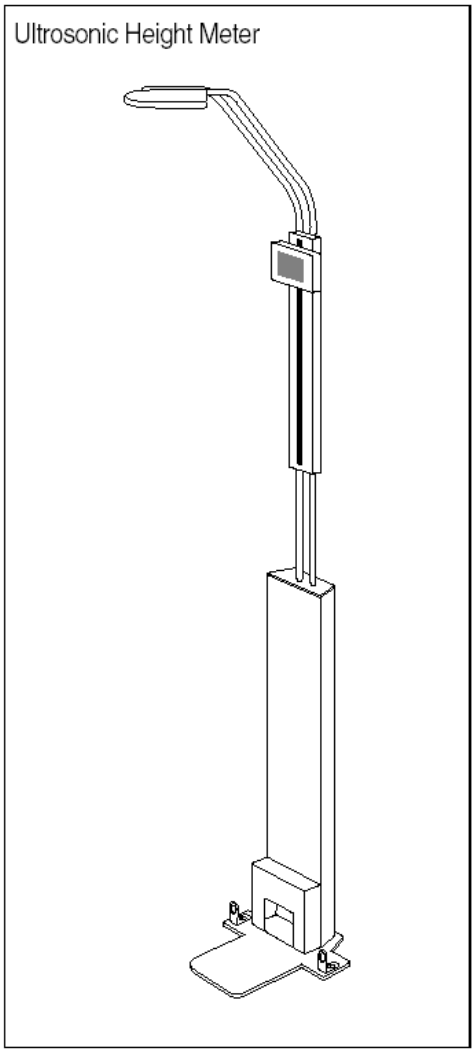
5) USB memory

It is possible to check the result on PC through USB memory.



6) Ultrasonic Height Meter UHM-101

It is an instrument to measure users' Height more accurately and quickly. It employs standoff determination method using ultrasonic sensor. It combines the technology of artificial intelligence and reflected characteristics of ultrasonic height meter.



<Good point of using UHM-101 as an option>

① It automatically measures height.
② Fast measurement
③ Accurate measurement
④ LCD monitor attached to the column leads the user to measure height in correct way.

<When using UHM-101>

① Install it in a place with stable temperature.
② Do not install it at the location facing the heater and air conditioner.
③ Do not put a sticker or foreign things on body of the UHM-101.
④ Nothing should be placed within a radius of 60cm

Note

Measuring height in the morning is even average 1~2cm higher than in the evening, because vertebral cartilage is pressed maximum in the evening by owns weight.

※ Model or specification of accessories can be changed according to market supply and demand.

3. Appearance of the device

The front and back of X-SCAN PLUS 950 looks as below.

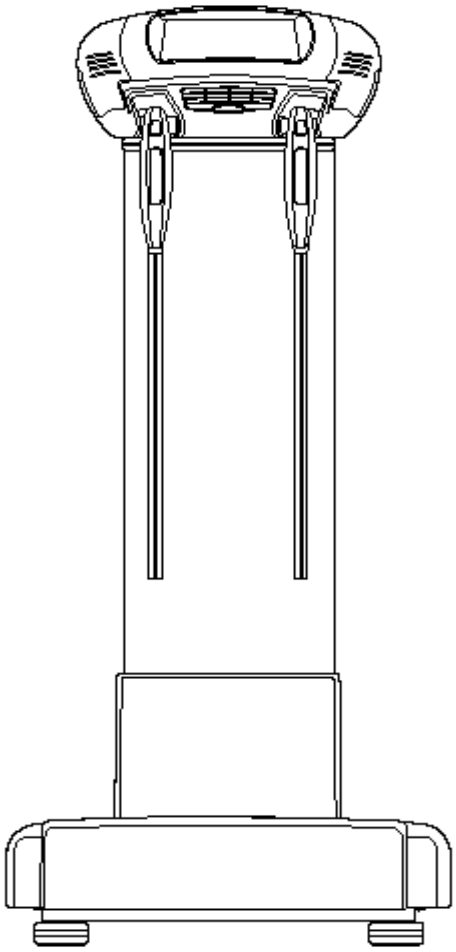
It consists of

① Display / Operation Part,

② Body Part,

③ Base Part

[Front Part]

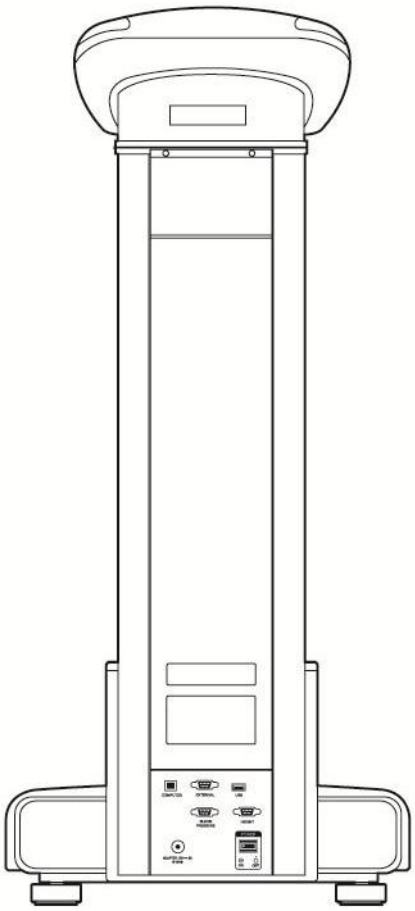


Display · Operation Part

Body Part

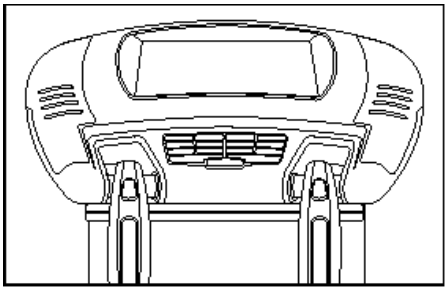
Base Part

[Rear Part]



4. Term of each parts and its function

1) Display Operation Part



① Large LCD (Color TFT)

It indicates the data the measurer input.

It also shows measuring process in messages and graphic display.

② Key pad

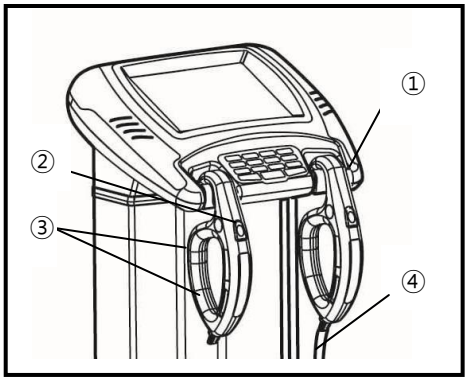
There is a keypad in X-SCAN PLUS 950. The function of each button is same as the touch screen.

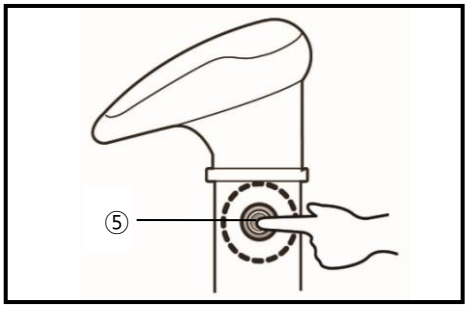
③ Touch panel

LCD (Liquid Crystal Display) panel as touch screen

It is easy to input data.

2) Body Part





① Holders of Handle electrode

Handle electrodes are rested on the holder when they are not used.

② Start button

Press Start button with your thumbs to start the measurement.

③ Handle electrodes

It measures the resistance of body.

Hold them with both hands during measurement.

④ Cable

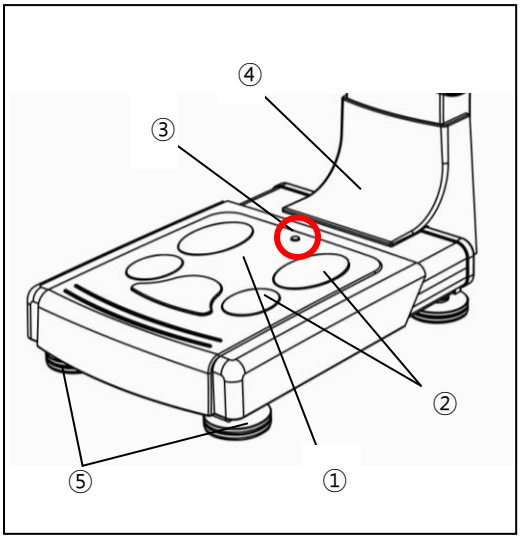
It connects the handle electrodes from the Circuit Board.

⑤ Subsidiary Switch

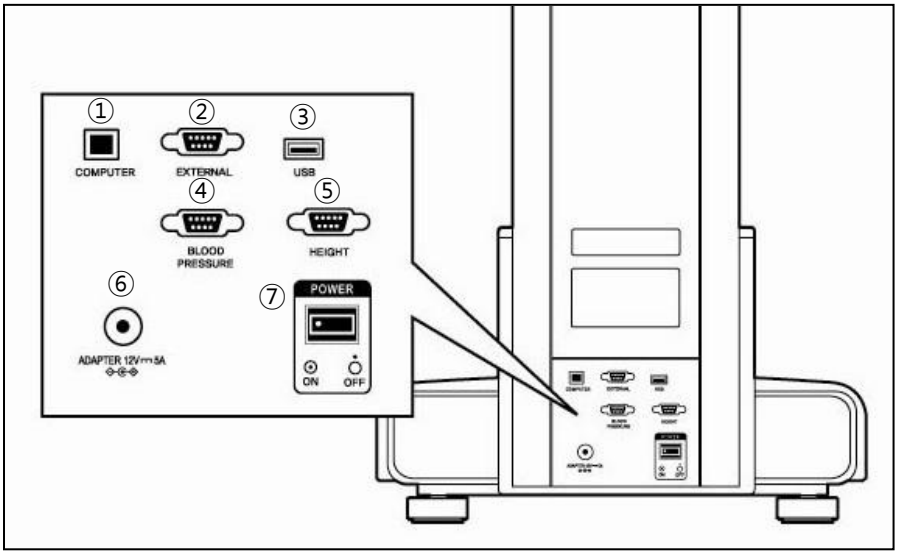
If you press the subsidiary switch while the device is on standby, it turns to the power-saving mode.

3) Base Part

① Scale: Measure weight.
② Plate electrodes: The user should step them in bare feet.
③ Horizontal level: A level to regulate horizontality of the analyzer.
④ Body cover: It covers the joint between the base and body parts.
⑤ 4 Wheels: support the analyzer.
Regulate the level of the analyzer by driving the wheels either left or right.



4) Rear Part



① COMPUTER: A port to connect computer with USB Cable.
② EXTERNAL: Connecting the peripheral devices (Bluetooth, etc.).
③ PRINTER: A port to connect printer
④ BLOOD PRESSURE: A port to connect blood pressure monitor manufactured by Jawon medical.
⑤ HEIGHT: A port to connect ultrasonic height meter.
⑥ Adapter port: Connecting the adapter.
⑦ Power switch: It can be used to turn on/off the power.

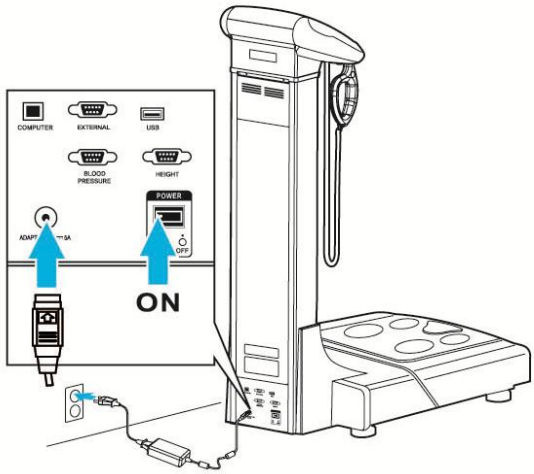
Caution	A window in the rear part of this analyzer is designed to be opened by an authorized technician to check the inside of the unit, so users cannot open it themselves. The manufacturer and its agent will not bear any responsibility for problems or damages caused by the user opening it by force.

INSTALLATION

1. Power Supply

Connect the power cable to the 'ADAPTER INPUT' placed on the lower back panel of the device.

Connect the cable. Turn on the power switch placed next to Power input, then after moment initial screen animation is displayed automatically.

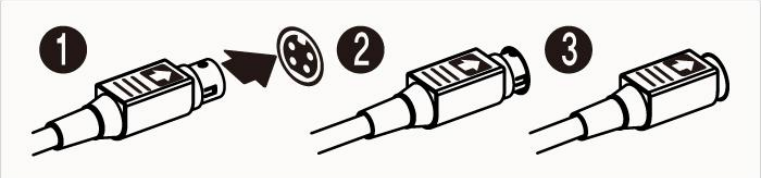


Caution

1. Before connecting a peripheral device to the device, the power should be turned off. Otherwise the devices can be damaged by electric shock or malfunction.
2. When the device and the peripheral devices are connected each other, the order of turning of the devices should start from the device to keep the functions and safe of the device.
3. This device should be only powered through the cable provided by OUR COMPANY.
4. Be careful not to touch the base part of the scale when switching on the device. If at turning on the switch loads any weight on plate electrode, a measuring error might occur with the scale's zero point.

Caution

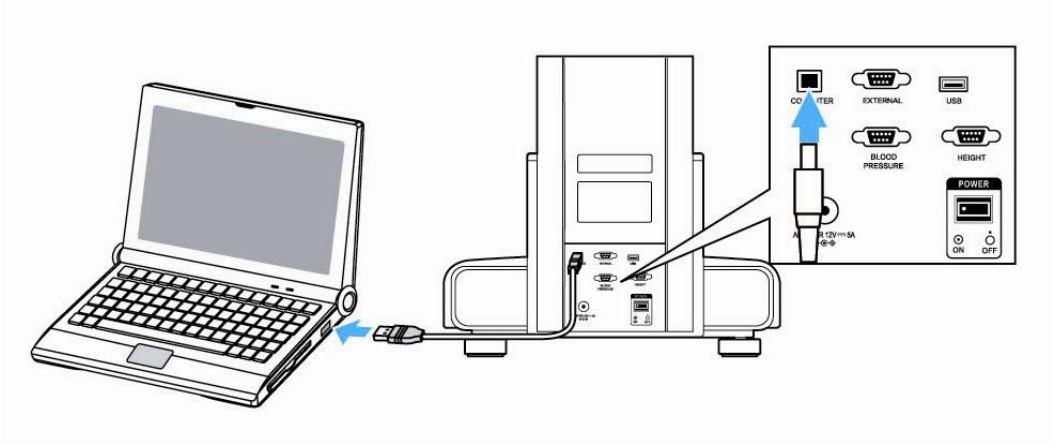
When connecting the adaptor, place the arrow mark of adaptor connection part up and correctly stick it in the socket on the rear of the main body.
Wrong connection could be a hazard.



2. Peripheral Device Installation

1) Connecting computer

Connect the “COMPUTER” port placed on the rear panel of this device to the computer with USB cable. Or it can be connected through Bluetooth.



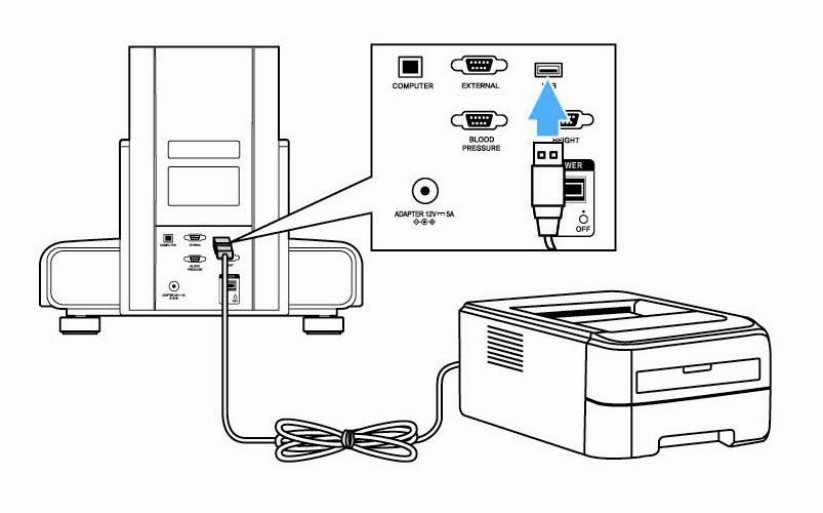
Note	1. If use USB port, the cable should be connected to the computer port. 2. When use computer port, USB driver should be installed at first. For more information, please refer to the manual CD of software.

2) Connecting Printer

Connect A4 Printer to the 'PRINTER' port placed on the back with USB cable. There are two ways to connect printer.

① Unit-Printer interface directly.

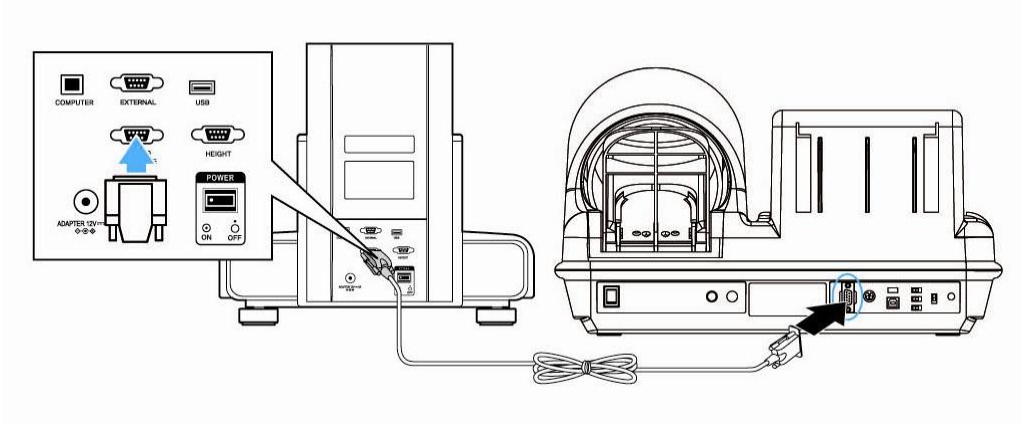
② Unit-Computer-Printer connecting.



Note	
	1. In order to save, search and retrieve the users' data, the user should connect the analyzer to the computer installed data management software offered free. Printing is done through computer in this case. 2. The professional consulting software optionally provides various printouts. In case of using the software, the pre-printed result sheet is not used. 3. Refer to user's manual for installation of software supplied with CD.

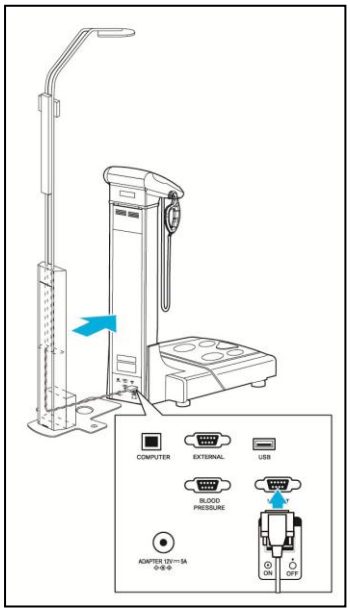
3) Connecting Blood Pressure Monitor

Connect blood pressure monitor to 'BLOOD PRESSURE' port placed on the rear panel of the main unit with RS-232 cable (See following figure)



4) Ultrasonic Height meter UHM-101

For assembly, push the lower board of the ultrasonic height meter into the bottom back of X-SCAN PLUS 950. Fix the left and right parts firmly using hinge and screw.
Connect RS 232 cable to the 'HEIGHT ' port placed on the rear panel of X-SCAN PLUS 950.



SYSTEM SET UP

'SYSTEM SETUP' allows the users to change the setting of operational parameters.

Note	
	For the purpose of improvement, the contents in SYSTEM SETUP can be changed.

1. Entering 'SYSTEM SETUP'

On the initial display, press '

' button on LCD for 3~5 second to enter System Set up.

2. Menu in SYSTEM SETUP

Menu items are displayed. The function of each icon is as follows.

1. DATE/TIME
2. VOLUME
3. PRINT
4. PRINT POSITION
5. CLOTHES
6. SCALE OFFSET
7. ABDOMINAL FATNESS
8. DATE TYPE
9. COMMUNICATION
10. ID USAGE
11. CHILD/ADULT/AUTO
12. PLATE/ANKLE
13. SEGMENTAL RESULT SHEET
14. HEIGHT METER
15. QR CODE DOMAIN

3. Entering 'MENU' view

Select menu according to one's desire, and confirm changes using「SET」button.

4. How to escape from ‘SYSTEM SETUP’

Press 「CLOSE」button on 'SYSTEM SETUP' phase, then back to initial view of the analyzer.

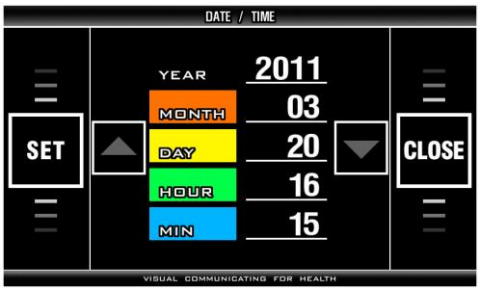
5. How to move into ‘SYSTEM SETUP’

Press「CLOSE」button on the menu view, then program is returned to 'SYSTEM SETUP' phase.

6. Set Up

< DATE / TIME >

It sets date and time (year, month, day, hour, and minute).

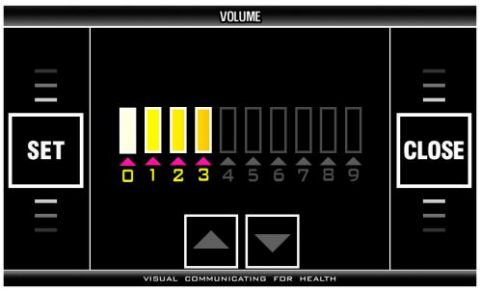


- Select (DATE / TIME) on SYSTEM SETUP screen and press SET button on touch pad.
- Pre-set: The date of the device released from the manufacturer's factory.
- Set YEAR by pressing '▼, ▲' on touch pad.
- Press 'MONTH' and set Month.
- Choose DAY, HOUR, MIN and Set correct date and time in the same way.
- Press 'SET' on touch pad to save the change.
- Return to SYSTEM SETUP screen by pressing 'CLOSE' on touch pad.

Note	
!	1. If 'SET' button is pressed before finishing setup of date and time, the date and time inputted at that time is saved and SYSTEM SETUP screen appears. To cancel any changes attempted, press 'CLOSE' then this device saves the previous date and time and SYSTEM SETUP screen appears. 2. When software is used in data management, measured date is automatically saved as the date set in this device. Therefore the date and time set in this device should be checked before use.

< VOLUME >

It adjusts the volume of voice guidance.



- Select (VOLUME) on SYSTEM SETUP screen with '▼, ▲' button and press 'SET' on touch pad.
- Pre-set: 3
- Range: 0 ~ 9
- Adjust volume with '▼, ▲' button on touch pad.
- Press 'SET' on touch pad to save selected value.
- Return to SYSTEM SETUP screen by pressing 'CLOSE' on touch pad.

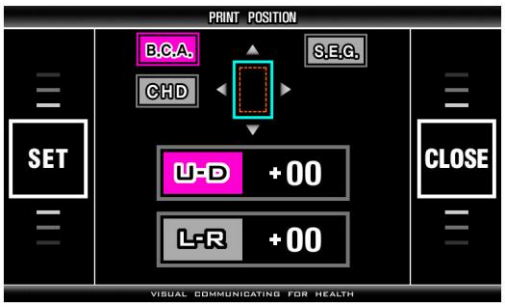
< PRINT >

It selects the printing mode of the A4 printer.

- Select (PRINT) on SYSTEM SETUP screen and press 'SET' button on touch pad.
- Pre-set: AUTO
- Choose one button on touch pad.
- Press 'SET' button on touch pad to save it.
- Return to SYSTEM SETUP screen by pressing 'CLOSE' button on touch pad.

< PRINT POSITION >

It adjusts the printing position in the direction of U-D (up-down) and L-R (left-right) to fit to the pre-formatted result sheet.



- Select (PRINT POSITION) on SYSTEM SETUP screen and press 'SET' on touch pad.
- Pre-set: 00 for U-D and 00 for L-R
- Range: 99 for U-D and 99 for L-R
- Choose U-D by pressing '▼, ▲' on touch pad. Choose L-R by pressing '▶, ◀' on touch pad.
- Pressing ▶ button moves print position down or right.
- Pressing ◀ button moves print position up or left.
- Every single press moves print position by about 0.2 mm.
- Press 'SET' button on touch pad to save it.
- Return to SYSTEM SETUP screen by pressing 'CLOSE' button on touch pad.

Note

1. L-R (left-right): - is moving to the left and + is moving to the right.
   U-D (up-down): - is moving up and + is moving down.
2. The print position needs to be separately set on the result sheet for Body composition analysis and Segmental analysis each.
   Press "BCA" and adjust the print position of Body composition analysis result sheet and then press 'SET' button to save the setting.
   Press "SEG" and adjust the print position of Segmental analysis result sheet and then press 'SET' button to save the setting.
   It is possible to adjust the print position of the result sheet for children if you press the CHD button.

< CLOTHES >

It is to subtract the weight of clothes worn by the subjects from measured weight. Calculated value from this setting is used in body composition analysis as subject's weight.

- Select (CLOTHES) on SYSTEM SETUP screen and press 'SET' on touch pad.
- Pre-set: 0.0 kg
- Range: 0.0 ~ - 9.9 kg
- Set the value by pressing '▼, ▲' on touch pad.
- Every single press changes this value by 0.1 kg.
- Press 'SET' button on touch pad to save it.
- Return to SYSTEM SETUP screen by pressing 'CLOSE' button on touch pad.

< SCALE OFFSET >

It compensates measured weight. Calculated value from this setting is used in body composition analysis.

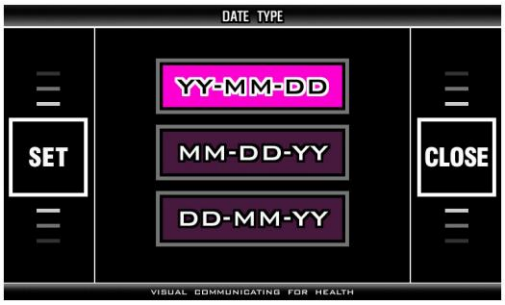
- Select (SCALE OFFSET) on SYSTEM SETUP screen and press 'SET' on touch pad.
- Pre-set: 0.0 kg
- Range: -9.9 ~ +9.9 kg
- Set the value by pressing '▼, ▲' on touch pad.
- Every single press changes the value by 0.1 kg.
- Press 'SET' button on touch pad to save it.
- Return to SYSTEM SETUP screen by pressing 'CLOSE' button on touch pad.

< ABDOMINAL FATNESS >

It sets the analysis of abdominal fatness under 18yrs.

- Select (abdominal fatness) on SYSTEM SETUP and press 'SET' on touch pad.
- Pre-set: NO
- Choose YES or NO on touch pad.
- If YES is selected, abdominal analysis is displayed for all age.
- If NO is selected, abdominal analysis is not displayed for patients below 18 years old.
- Press 'SET' on touch pad to save it.
- Return to SYSTEM SETUP screen by pressing 'CLOSE' button on touch pad.

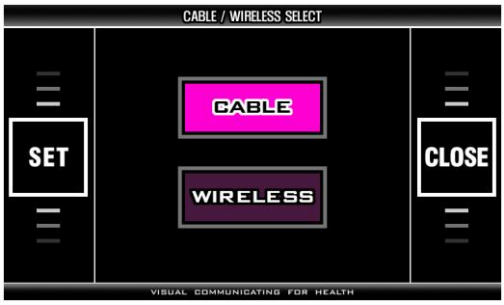
< DATE TYPE >



This is to set the format of the date.

- Select (DATE TYPE) on SYSTEM SETUP screen and press ‘SET’ button on touch pad.
- Pre-set: YY-MM-DD
- Choose the format on touch pad.
- Press ‘SET’ button on touch pad to save it.
- Return to SYSTEM SETUP screen by pressing ‘CLOSE’ button on touch pad.

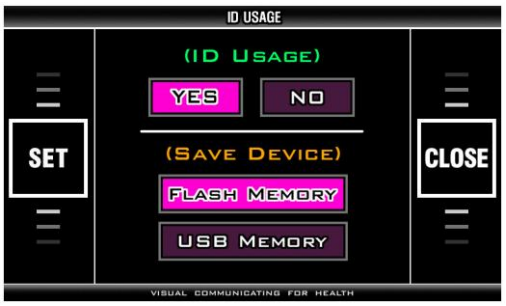
< Communication >



Select the connecting method. 'CABLE' is for USB cable and 'WIRELESS' is for wireless communication.

- Select (COMMUNICATION) on SYSTEM SETUP screen and press ‘SET’ button on touch pad.
- Preset: CABLE
- Choose CABLE or WIRELESS on touch pad.
- Press ‘SET’ button on touch pad to save it.
- Return to SYSTEM SETUP screen by pressing ‘CLOSE’ button on touch pad.

< ID usage >



ID USAGE can be turned off or on.

- Select (ID usage) on SYSTEM SETUP screen and press 'SET' on touch pad.
- Preset: NO, FLASH MEMORY
- ID USAGE: Choose ID USAGE on touch pad. Choose YES or NO on touch pad.
- SAVE DEVICE: From SAVE DEVICE, select either FLASH MEMORY or USB MEMORY to save the analysis.
- If ID usage is activated, an up to 20-digit ID can be input and saved in FLASH memory or USB memory.
- Press 'SET' button on touch pad to save it.
- Return to SYSTEM SETUP screen by pressing 'CLOSE' button on touch pad.

Note	1. If ID function is activated, ID window will pop up at the initial screen. So the user can input ID and save the results. If ID function is not activated, the user should input basic information before the test starts. 2. If FLASH MEMORY is selected, the results are saved in flash memory in the machine itself. If USB MEMORY is selected, the results are saved in portable USB memory stick.

Note	1. When FLASH MEMORY is used, ① Up to 100,000 results can be saved. If the number of saved results exceeds 100,000, the new result will overwrite the oldest result. The results can be deleted and initialized. ② The result sheet can be printed from an A4 printer. 2. When USB MEMORY is used, ① The number of storage differs depending on the capacity of USB MEMORY. ② The A4 result sheet cannot printed. 3. The user should use USB memory (option) supplied only from our factory. Problems caused by USBs which users randomly purchase are not subject to the manufacturer's responsibility.

<CHILD/ADULT/AUTO>

It selects the print format of result sheet.

Choose ‘ ’ and on the initial screen of ‘SYSTEM SETUP’ to enter the menu.

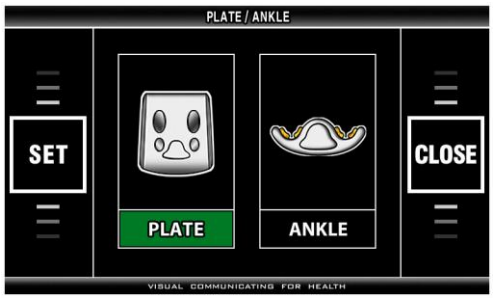
- Pre-set: AUTO
- Select a print format with the touch pad.
- Press ‘SET’ button on touch pad to save it.
- Return to SYSTEM SETUP screen by pressing ‘CLOSE’ button on touch pad.

Note

1. The print format of result sheet
   ① CHILD: No matter what age is set, it prints the result sheet for CHILD. Only the child growth curve is not printed in case of 18 or over 18.
   ② ADULT: No matter what age is set, it prints the result sheet for ADULT. The child growth percentile is presented on the ADULT result sheet in case of under 18.
   ③ AUTO: It automatically selects and prints a CHILD result sheet in case of under 18 and an ADULT result sheet in case of 18 or over 18.

<PLATE/ANKLE>

Select either plate electrode or ankle electrodes.

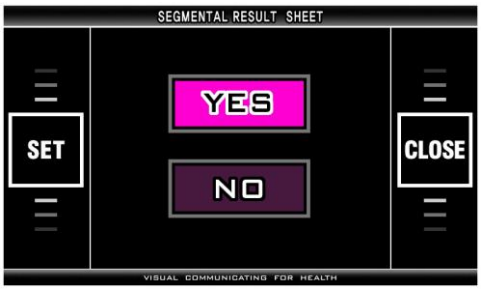


- Pre-set: Plate electrode
- Enter into the menu view.
- Choose PLATE or ANKLE on touch pad.
- Press SET button to save it and return to main 'SYSTEM SET UP' view with 'CLOSE' button.

<SEGMENTAL RESULT SHEET>

Segmental result sheet (option) can be selected.

- Pre-set: NO
- Select ‘ ’ to enter the menu.
- Select ‘YES’ or ‘NO’.
- Press ‘SET’ to save the setting and press ‘CLOSE’ to return to main ‘SYSTEM SETUP’ screen.
- In case of choosing ‘YES’, two result sheets for Body composition analysis and Segmental analysis are printed together and in case of choosing ‘NO’, only the result sheet for Body composition analysis is printed.



<HEIGHT METER>

Adjust the height meter and select the use of height meter.

- Preset: OFF
- Select ‘ ’ (HEIGHT METER) to enter menu screen.
- Press ‘ON’ or ‘OFF’ on touch pad.
- Press ‘SET’ button for completing the setup. Press ‘CLOSE’ button to return to initial screen of ‘SYSTEM SETUP’.

Note	
	1. Height meter is an option. 2. Activate the use of height meter in ‘SYSTEM SETUP’ when you connect height meter.

<QR CODE DOMAIN>

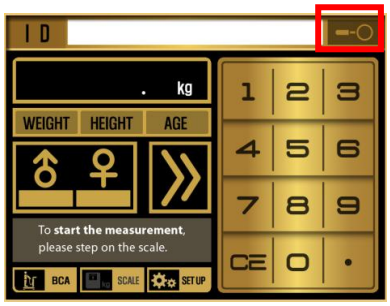
This is for setting QR code domain.

- Select ‘ ’ to enter the menu.
- Enter a domain address or IP you want on the touch pad. A maximum 20-digit number can be entered for the domain address.
- Press ‘DONE’ button to save the data and return to the initial screen.

Note	Once you scan QR code after a measurement, the data will be stored in the server of the saved domain address. If the domain address is not set, the data will be stored in the server of Jawon Medical ‘m.jawon.com’. You can search the measurement data by creating an ID and PW.

INITIAL SCREEN SETTING

Once turning on the device, you can see the screen same as right picture.



1. ID search

Press ' ' button on the initial screen.

Enter a 20-digit ID with alphabets and numbers mixed and press ' ' button. You can see the results of the ID or print them.

Note

An ID can be searched when 'ID USAGE' is set in "YES".

2. INDEX search

In case of not using ID, INDEX search can be used on the left upper side of the screen.

Press ID on the screen and enter an index number and press ' ' button. Then you can search or see the results and print them.

3. Setting a measurement mode

Users can select one of 'SCALE' and 'BCA' modes.

Long press '

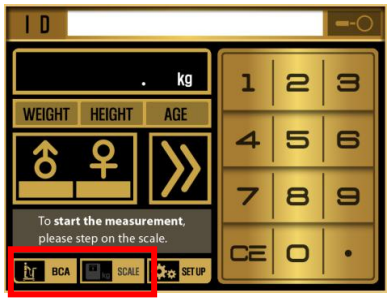
' button for 3~5 seconds, then the icon will change to

and you can use the device in SCALE mode. In this case, you can only use the device as a scale so it will not start to analyze body composition.

If you long press

button from 3~5 seconds again, the mode will be changed to

(BCA mode).



MEASURING AND ANALYZING

1. Precaution for measurement

The reliability of the results can be assessed by its accuracy. The "Accuracy" of the device is determined by comparing the actual body composition and the results from Body Composition Analyzer. The "Reproducibility" is determined when the device gives the identical results under the same conditions. In order to maintain the accuracy of the results, the following guidelines should be kept.

① Water volume increases after a meal. Therefore, measure on an empty stomach.
- Measure 3 ~ 4 hours after a meal.
- Avoid beverages containing caffeine or beverages functioning as diuretics 4 hours before measurement.
- Drink 2 cups of water 2 hours before the measurement.

② Before measurement, the subject should be in a stable condition.
- Measure 3 ~ 4 hours after a bath, a sauna, exercise or activity that sweats a lot.
- Or measure before these actions.

③ Avoid drinking alcohol 24 hours before the measurement

④ Wear clothes as light as possible.

⑤ Once the subject is on the scale, avoid sudden movement from sitting to standing position. Body fluid goes down to the lower body and affects the results. Thus subjects should be measured after maintaining standing position for 5 minutes.

⑥ Clean both the electrodes and measuring body parts.

⑦ Changes in room temperature may affect the results. Measurement should be done in a temperature around 20 °C.

⑧ Body composition and weight varies even during a day. Therefore, the measurement should be performed at the same time every day. For a person who stands for a long period of time during the day, it is advised to measure in the morning.

⑨ Go to bathroom before measurement.

⑩ Maintain correct position and posture during the measurement.

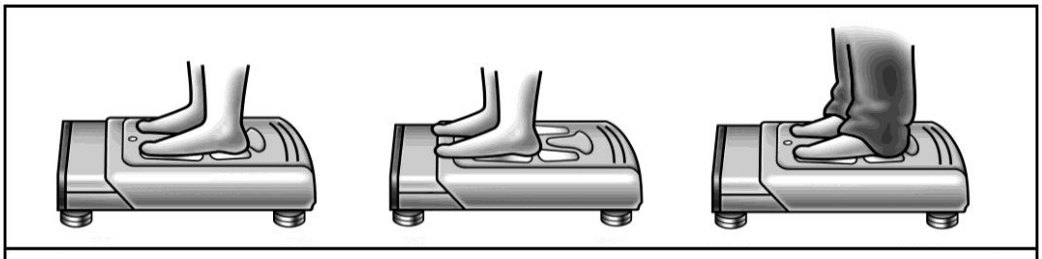
In order to keep one's health and the balance of body composition, check the changes of body composition through continuous analysis and compare the results. Make sure that the body composition should are measured under the same physical and environmental conditions. If the condition before the measurement such as volume of a meal, meal time, and activities (exercise, sauna, drinking lots of beverage, urination, etc.) are kept same, the reproducibility of a device is obtained. Therefore, the data can be used to evaluate the change of body composition.

2. Correct position to measure

1) How to touch electrodes

- Make sure that the plate electrodes are clean.
- Take off the socks or stockings then, stand on the plate electrodes.
- Remove sweat or foreign matters on the soles.
- Fairly place the bare feet on the plate electrodes. Make sure that the clothes are not between the soles and the plate electrodes.

When ankle electrode is selected to measure body composition, pull down the socks as show in the picture and make sure the user's ankle is touched on the electrode.

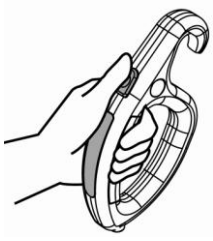


(O) correct stand (X) imbalanced touch (x) foreign matters

(O) correct stand (X) Ankles are barely touched

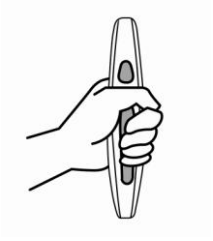
Caution	When using a ankle electrode, be careful not to trip on the electrode before and after a measurement. Use the ankle electrode after reading and understanding the instructions enough. Especially the elderly and the infirm have to be more careful of the safety while using the ankle electrode.

- Grip handle electrodes with fingers and palms.
- 4 electrodes should be touched impartially.
- Stretch both arms and spread them 30° from the body.



(O) correct grip

(x) grip with only palm



(x) imbalanced touch

Note

If 8 electrodes are not perfectly touched during the measurement, the result is not reliable or the device quits the measurement.

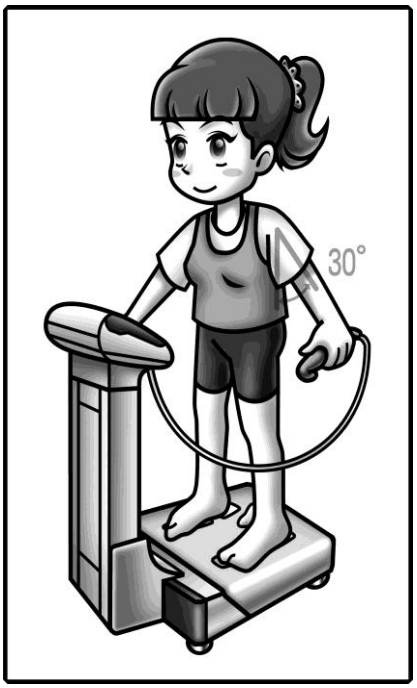
Note

1. When the subject has hands or feet that are too small to cover all electrodes sufficiently for measurement, please pay attention to touch all electrodes fairly. How one touches electrodes will affect the reliability of the analyzed value.
2. During measurement the subject should not be touched by another person or by conductive materials.
3. If 8 electrodes are not perfectly touched during measurement, measuring is quit or the data is not reliable.

2) Measurement Posture

- Step on the scale with bare feet. Stretch both arms and spread them 30° from the body.
- Press start buttons with thumbs for 2 ~ 3 seconds to start the measurement. Once it starts, release the start button and hold the same posture until the measurement is over.
- Do not speak or move the body until the measurement is completed.
- Do not bend or shake the arms until the measurement is completed.
- The measurement will be stopped if all eight electrodes are not fairly touched.

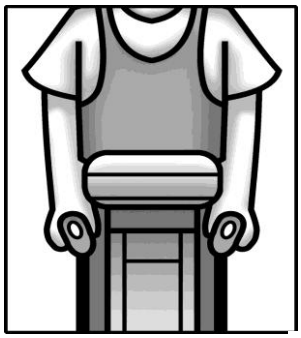
< Correct posture >



Don’t move and the arms Open about 30 degrees

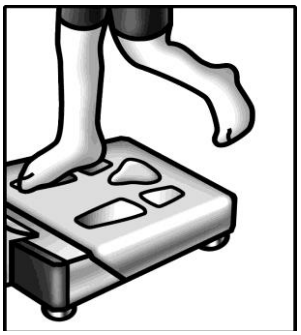
< Incorrect posture >

Do not bend the arm



Open arms about 30 degrees

Do not move



Keep touching all electrodes

3. Measurements Procedure

When the power is turned on, the measurement starts.

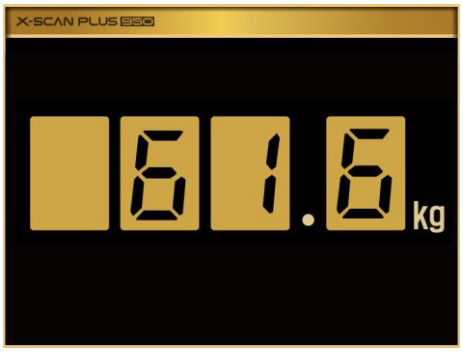
1) Basic Procedure

There are two ways to measure impedance; Plate electrode or Ankle electrode.
Either one can be selected at the SYSTEM SETTING.

① Measure weight

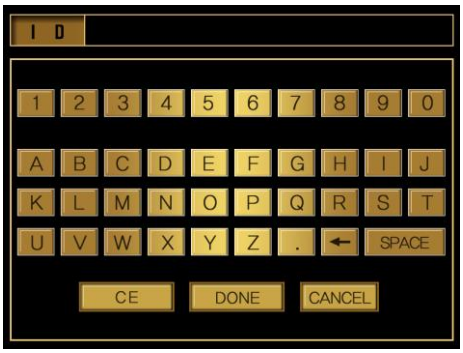
- When the power is on, the initial screen appears as shown in the picture.
- The following message appears.
  "To start, please measure your weight"

- When the user steps on the scale, the measurement starts with a chime bell. If the user moves on the scale, voice guidance warns as follows.
  "Don't move or speak please"
- After the weight measurement, the screen changes as shown in the picture.



② Input ID

- Input an ID.
- ID can have up to 20 characters
- Press “DONE” to save after input.



③ Input Height

- The following message and voice guidance appears as follows. "Input your Height"
- The user enters height on the touch panel.
- ' • ' button on touch panel for decimal point numbers.

Note

If want to re-input height, the first written value is first removed.
ex) when 1→5→4 is input, 154 cm appears on LCD.
ex) when 1→5→9→4 is input, 594 cm appears.
To input decimal number, touch '• 'button ahead of decimal number.
ex) to input 160.8, input 1→ 6→ 0→ •→ 8, but if wanting to adjust to 160.4 , input only •→ 4 .

④ Input Age

- The message appears as follows.
  'Input your Age.' Voice guidance also announces this message.
- Input your age and confirm it.

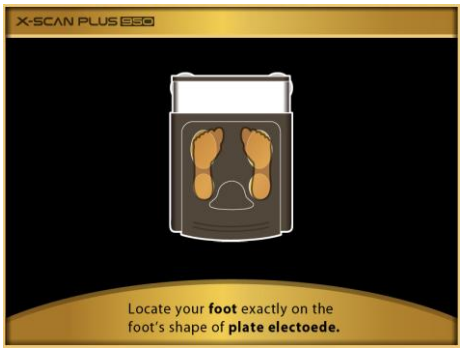
⑤ Select gender

- The LCD screen changes as shown in the picture with a chime bell.
- When the user hears the voice guidance "Select Male or Female", select the gender.

⑥ Start measurement

After inputting the subject's personal data, the screen changes as shown in the picture.

- Fit feet on plate electrodes accurately.



Note

When an ankle electrode is used,

- Check whether the ankle electrode is selected in the SYSTEM SETUP mode.
- Make sure that your ankles are closely touched on the electrodes until the measurement finishes.

Users are allowed to measure up to 3 times only when the connection between ankles the electrode is bad.

⑦ Start measurement

The screen changes as shown in the picture.

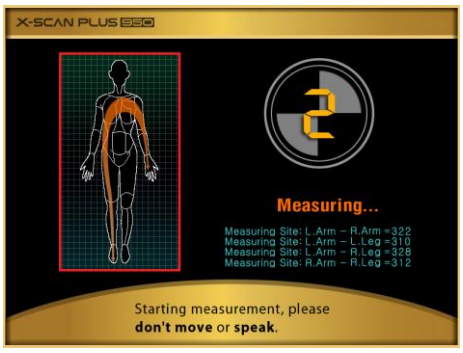
- Grip electrode handles correctly and press start buttons with thumbs at the same time.
- Impedance measurement starts by pressing start buttons.
- Do not move or speak during measurement.

⑧ Measuring

- LCD turns to "MEASURING' view.

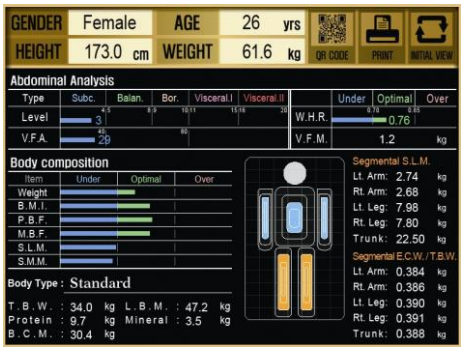
Voice guidance announces, "Starting measurement, don't move or speak please."

- Grab the handle. LCD indicates how the electric current flows into our body.



⑨ Finish measurement and Result

As the measurement completed, the message and voice guidance informs the user.



⑩ Scanning QR code

- Press the ‘QR code’ on the device screen to enlarge the icon and scan the ‘QR code’ with a mobile device to save the data in the server.

  After scanning the ‘QR code’, you can check the measurement data with your mobile device and manage it at will from the server in which it is saved.

Note

1. Scan the QR code with a QR code reader in a smart mobile device.
2. The data saved in the server could be damaged or lost due to a problem with the server.

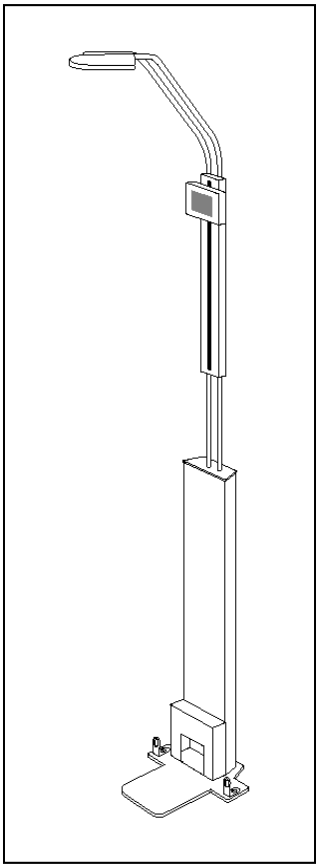
⑪ Restarting

- Once the result is displayed on the display, it can be printed out in pre-printed result sheet.
- After confirming the analyzed result, press ‘Initial view’ to restart.
- The device returns to the initial screen after one minute.

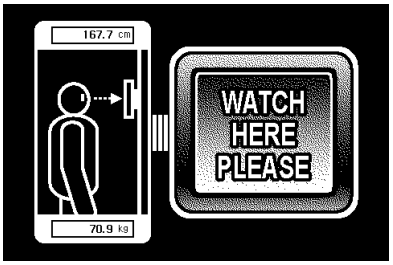
2) Using Ultrasonic Height Meter

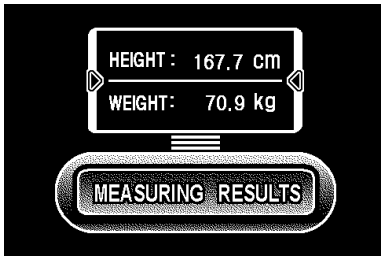
An Ultrasonic Height Meter is an optional part. When height meter is connected to X-SCAN PLUS 950, it measures the user's height in accurate way.

[Measuring procedure]



① Connect X-SCAN PLUS 950 to ultrasonic Height Meter.
② Turn on the device and height meter. After the voice guidance, "To start measuring weight", step on the scale.
③ The LCD monitor of height meter moves to the height of the user with a message, "Measuring height."
④ Fix your eyes on the LCD approximately 5 seconds. Measurement starts with message 'Look at LCD'.
⑤ When the measurement completed, it displays the result of weight and height on the LCD.
⑥ With chime bell, you can start inputting the person data.
⑦ The rest of the procedure is same as the basic procedure.



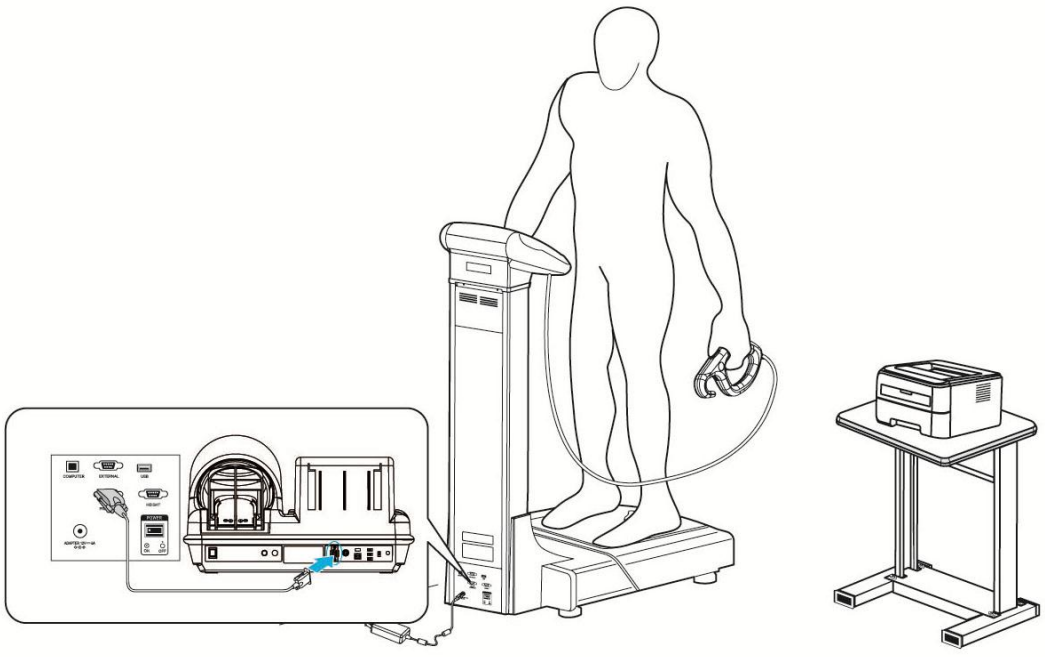


Note	1. The LCD in ultrasonic height meter(UHM-101) leads the user to measure height in correct posture. It reduces the measuring error which can be occurred due to the incorrect posture such as head-down. 2. It starts measuring impedance when the user is in correct posture. 3. During the measurement, the user should straighten the back and fix the eyes on the monitor of height meter.

3) Procedure using Blood Pressure Monitor

When X-SCAN PLUS 950 is connected to Blood Pressure Monitor. both blood pressure and body composition can be measured. Blood Pressure Monitor should be selected from one of the models from Jawon Medical Co., LTD.
In this way, the blood pressure can be monitored together with weight control. It helps to manage the body fat while checking the blood pressure simultaneously. The measuring procedure is as follows.

① Connect a Blood Pressure Monitor to the device.
② Connect the device to a computer.
③ Turn on the power of BPM and the computer. Turn on the device.
④ Input personal data to create a new ID or input an ID which is already registered.
⑤ Measure blood pressure first.
⑥ Measure body composition.
⑦ The results of blood pressure and body composition are immediately displayed on the computer screen after the completion of body composition analysis.
⑧ Save the data or print it out.



STORAGE OF DATA USING USB MEMORY

1. Storage of data

1) On selecting FLASH MEMORY

① Insert USB memory stick into USB(A) jack placed on the back side of the device.

② The following message appears.

'Do you want to write data to USB memory stick?' on initial screen. Press 'YES' to send data to USB memory.

③ Transmitting message will be displayed on the screen. When transmission is complete, the message 'The data writing was completed' will be shown. Press CLOSE to complete the saving process.

Do you want to write data to USB memory stick?
YES
NO
Writing data to USB memory stick. Please Wait for a moment.
USB MEMORY
The data writing was completed.
CLOSE

2) On selecting USB MEMORY

When 'USB MEMORY' is selected, measurement data will be stored to USB MEMORY without notification.

Data can only be saved when USB MEMORY is inserted only at the initial screen of device.

If USB MEMORY is not inserted during the measurement, the message "USB MEMORY is not connected' appears. Data will not be stored.

Please insert USB MEMORY and measure again.

If the message above appears even when USB memory stick is inserted, take out the USB MEMORY and insert it again. Please use the USB MEMORY which is provided by Jawon Medical Co. LTD.

Note

The data can be saved only when 'ID USAGE' function is activated in SYSTEM SETUP.

Note	
	1. USB memory should be inserted only at the initial screen. 2. When there's no data saved in FLASH MEMORY, the message "No saved data." will appear. Please insert USB memory after measuring body composition. 3. When the saving format is changed from USB MEMORY to FLASH MEMORY, the data saved in USB MEMORY should be transferred to PC. 4. Please refer to program manual for more information.

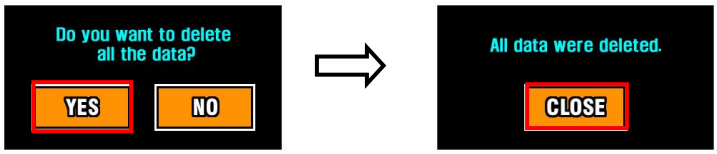
2. Data Deletion

Press the upper left corner for 5 seconds on initial screen. Password window will appear. Press '1111' on the password window.

The following message appears. "Do you want to delete all data?'

If you want to delete the data, press YES to delete, otherwise press NO.

When deleting the data, the message 'All data were deleted' will appear. Press 'Close' to return to initial screen. (Deleted data can not be restored)

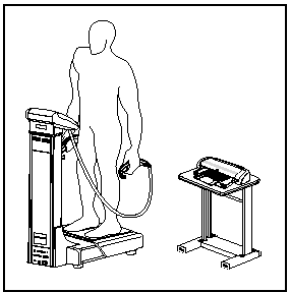


PRINTING

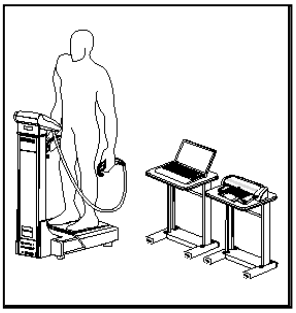
1. Connect printer

Beside the results displayed in LCD, more information can be printed out in the A4 result sheet. The printing procedure using A4 printer is as followings.

① Connect X-SCAN PLUS 950 to A4 printer.



② Connect X-SCAN PLUS 970 to a computer in which the basic management program is installed.



2. Result sheet

There are two kinds of result sheet. One is for body composition analysis and the other is for segmental assessment.

① For Body composition analysis
Users can see the overall body composition analysis.
Body water, Protein, Mineral, Body fat, Soft lean mass and etc.

② For Segmental assessment (option)
Users can see the segmental assessments of left arm, right arm, left leg, right leg and trunk.
Segmental E.C.W./T.B.W., Segmental S.L.M., Segmental M.B.F. and etc.
Use it for checking the body balance.

RESULT INTERPRETATION

X-SCAN PLUS 950 indicates the synthetic analysis including edema assessment, prediction of abdominal fatness, segmental analysis, etc. Explanation of each item is as follows.

1. Personal Data

The subject's ID / name, date, height, weight, age and gender are indicated on the result sheet.

2. Company Logo

The user can input LOGO such as name of hospital, sports center, or obesity clinic, telephone number, address, contact person, etc.
Refer to the manual of software for logo insertion.

3. Body Composition Analysis

Total weight is a combination of bone, ligament, tendon, organs, fluids, muscle and fat. When a person loses weight by the optimal fitness programs or gains weight, the components of the weight will probably change, as well as the ratio of these components to one another.
Body composition table provides the analyzed result and optimal range based on the standard value of weight components.

- Body Weight = Lean Body Mass + Mass of Body Fat
- Lean Body Mass = Soft Lean Mass + Mineral Mass
- Soft Lean Mass = Total Body Water + Protein Mass
- Total Body Water = ECW (Extra Cellular Water) + ICW (Intra Cellular Water)

The sum of intra cellular water and extra cellular water is the total amount of body water. Soft lean mass consists of total body water and protein mass. Lean body mass consists of soft lean mass and mineral mass. Ultimately, the sum of Lean body mass and Fat mass is weight.

① Weight: Subject's body weight
Std. wt. (Standard weight): height $(m)^2$ X 22(BMI)

② L.B.M. (Lean Body Mass): It is calculated by subtracting mass of body fat from body weight. Lean body mass consists of fat free mass of body such as muscle, organs, blood and water.

③ Mass of Body Fat: It is calculated by subtracting lean body mass from weight.
Subcutaneous Fat : It exists under our skin and when pulsing with visceral fat, it becomes the total mass of body fat.

④ S.L.M. (Soft Lean Mass): It consists of total body water and protein and some internal organs such as heart, stomach and bowels etc.
S.M.M. (Skeletal Muscle Mass): Skeletal muscle is also called "voluntary" muscle because one can move this muscle voluntarily unlike visceral muscle. Skeletal muscle enables people to walk and perform other voluntary activities.

⑤ Mineral: Composed of bone and electrolyte.

⑥ Protein: Major component which consists of soft lean mass and body water.

⑦ T.B.W. (Total Body Water): The weight of body water.

⑧ I.C.W. (Intra Cellular Water): Water existing in inner cell.

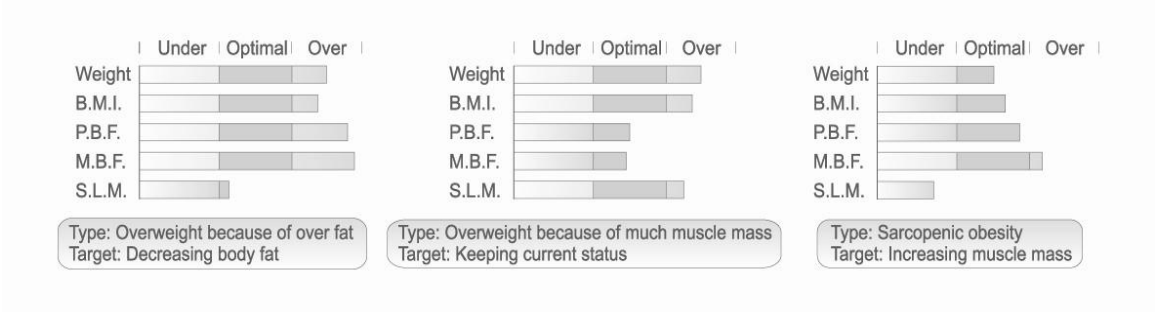
⑨ E.C.W. (Extra Cellular Water): Water existing in outer cell membrane like plasma and ISF, etc.
Other than measured data, additional evaluation and optimal range based on standard weight are also indicated. For example,

Weight/ Optimal **61.6** [58.4~71.3]	Weight Optimal: It evaluates measurer's condition based on the standard weight. 61.6: It is the subject's actual weight. [58.4~71.3]: This is normal range according to subject's personal information.

Body Status

Body Status is displayed in a bar graph as shown in the picture.

It is very convenient in recognizing what to do; Increase muscle, Decrease fat, Keep current status, etc.



1) Percent of Body Fat [%]: for Adults

	low fat	normal	overweight	obese	severe obese
Male	less than 15	15 ~ <20	20 ~ <25	25 ~ <30	over 30
Female	less than 20	20 ~ <30	30 ~ <35	35 ~ <40	over 40

2) Body Mass Index (kg/m^2): for Adults

*EAST ASIA

thin	normal	overweight	obese
< 18.5	18.5 ~ ≤ 23	23 ~ ≤ 25	over 25

* EU and etc.

thin	normal	overweight	obese
< 18.5	18.5 ~ ≤ 25	25 ~ ≤ 30	over 30

Abdominal Analysis

Abdominal fatness is divided into subcutaneous type and visceral type. When it comes to body fat, experts say that not only the amount of fat is important but also its distribution. If visceral fat area is over 100 $cm^{2,}$ it is classified as "visceral obesity" regardless of P.B.F., W.H.R. or Body weight.

Waist-to-hip ratio (W.H.R.) shows the distribution of fat stored in one's abdomen and hip. It is simple but useful in assessing fat distribution. Body fat is stored in two distinct ways. They are often categorized into and called 'apple' and 'pear' type. Apple type shows bigger girth of waist than hip and pear type has bigger girth of hip than waist. If body fat in abdomen increases, the risk to cardiovascular diseases, diabetes, etc. becomes higher.

1) W.H.R. (Waist to Hip Ratio)

W.H.R. is calculated by dividing waist girth by hip girth. When W.H.R. is below 0.9 (male) / 0.85 (female), the risk of visceral obesity is low.

2) Visceral Fat Level: The degree of visceral obesity is displayed in a level.

- Level 1~ 4 corresponds to subcutaneous fat type
- Level 5~ 8 corresponds to balanced type that subcutaneous and visceral fat is balanced.
- Level 9~10 corresponds to borderline type.
  If subjects maintain current lifestyle, they will proceed to visceral fat type.
- Level 11~15 corresponds to visceral fat type Ⅰ.
- Level 16~20 corresponds to visceral fat type Ⅱ.

3) V.F.A. (Visceral Fat Area): The optimal range is 50 ~ 100 cm^2 (male), 40 ~ 80 cm^2 (female).

4) V.F.M. (Visceral Fat Mass): V.F.M. is indicated in 'kg' unit.

Prediction of Abdominal Fat

It is the graph of V.F.A. If the user doesn't exercise and just keep the current life style, the graph indicates how V.F.A increases and how BMR decreases every 5 years.
This graph gives motivation to manage daily life style.

Segmental Analysis

Soft lean mass and edema index of five body parts (left and right arms, left and right legs, and trunk) are analyzed.

1) Segmental S.L.M.

It evaluates segmental S.L.M. of 5 body parts (arms, legs and trunk) in 'kg' and 'percentage'. Dual bar graph of soft lean mass makes it possible to distinguish muscular-looking body type from actual muscular body type.

2) Segmental edema index

Segmental edema index to 5 body parts is indicated with the ratio of extra-cellular water and total body water and the ratio of extra-cellular fluid and total body fluid.

Body Composition Change

Check to change of body fat, soft lean mass and weight for 8 times.

Body Type

Body type is determined by B.M.I and P.B.F.

Body type is classified into Low fat / Low fat Muscular / Over Weight Muscular / Athletic / Thin / Standard / Over Weight / Borderline / Low Muscular / Over-fat / Thin Fat / Obese Ⅰ / Obese Ⅱ / Obese Ⅲ.

Assessment of E.C.W./T.B.W.

Edema is the unbalanced state of intra and extra cellular water. Edema can be increased by salty food, malnutrition, postpartum, exercise, temporary fatigue etc. It is divided into 3 steps; Optimal, Borderline, Over.

B.C.M.(Body Cell Mass)

It consists of intra cellular water and protein.

Energy Expenditure

1) B.M.R. (Basal Metabolic Rate)

B.M.R. refers to the calories required to maintain human body's basic function such as movement of heart, brain, neural transmission, regulating body temperature and so on. B.M.R. is in proportion to S.L.M. because body fat stores energy while muscle consumes energy. Therefore, even if the weight is same between persons, the person with more muscle has greater B.M.R.

2) T.E.E. (Total Energy Expenditure)

It is the sum of basal metabolic rate and calories needed for daily activity. Generally it is calculated by multiplying B.M.R. by PAL (Physical Activity Level).

A.M.B.(Age Matched of Body)

It is the estimated physical age of the subject considering body composition analysis result, gender, and biological age. This is calculated by comparing the optimal body composition based on the gender and biological age of the subject with the actual analyzed body composition. It can be used to evaluate the subject’s health and body development.

Total score

It is a physical total score which is evaluated considering a subject’s body composition analysis result and biological age. On the basis of 100 points, the people in the balanced standard body type get scores around 80. The more the subject is healthy and has soft lean mass, the higher the score is.

Study

Impedance

It indicates the segmental impedance of five body parts (left and right arms, left and right legs, and trunk) corresponding to each frequency (1~ 1000 kHz).

Blood Pressure

When the blood pressure monitor supplied from Jawon Medical Co., LTD is connected to the device, blood pressure can be measured and the result can be printed out. Systolic blood pressure, diastolic blood pressure, and pulse are printed on result sheet. It helps to recognize hypertension assessment related to obesity.

QR code

Scan the QR code with a smart phone to see the result on the website.

STORAGE & MAINTENANCE

1) Pay attention to the allowable value of electric current.
2) Avoid direct sunlight, humidity, dust, thick oil and salty environment or extreme changes in temperature.
3) Do not install or store the device in a place where any chemicals or gas are stored.
4) Do not use the device in any unstable, vibrating, or impact-giving area.
5) Connect the earth placed on the backside of this device to terminal plate to prevent any electric shock from leaking current or a potential difference.
6) Do not put or drop anything on the device and avoid strong impact.
7) Do not disassemble or remodel the device.
8) If this unit has not been used for a long time, use this after confirming with an expert if all function and appearance are in good condition.
9) Do not splash any fluid on this device or insert any foreign substances.
10) In case of inserting foreign substances or exposing to particular environment, this device must be examined by an expert before use.
11) Use the power cable, plug, and fuse that are offered by our company.
At this time, confirm the covering of cable, the state of plug connection, and other check points.
• RS 232C cable • USB port • Adapter
12) When pulling out the power cable, turn off the power switch first and then pull the plug out.
13) Storage ambient: Temperature -25 ~ 70 °C, Humidity lower than 93 % (non condensing)
14) Operation ambient: Temperature 5 ~ 40 °C, Humidity 15 ~ 93 % (non condensing)
15) Do not store or use this device under 70 kPa (700 mbar) or over 106 kPa (1060 mbar) of atmospheric pressure.
16) Cleaning & Disinfection
① Cleaning: Use a soft gauze cloth with volatile liquid like alcohol (Ethyl or Isopropyl alcohol 70~90%) to clean it.
Clean it every 2~3days. Do not use a wet cloth.
② Disinfection: After measurement, use a soft gauze cloth with volatile liquid like benzene and alcohol. Then, wipe the enclosure with soft lint. Please wipe after every measurement for electrode disinfection.
17) Refer to “SAFETY PRECAUTIONS.”

Caution	
	Users must wipe while wearing safety equipment such as gloves when disinfecting electrodes. Our company does not take responsibility for safety accidents caused by user's carelessness.

ERROR & REPAIR

1. Kinds of error & repair

Error	Cause	Repair
Out of range of impedance	When the subject's body impedance deviates from the limit - Insufficient touch to electrodes - Impedance is out of range - Range: 100 ~ 950 Ω	• Clean the measuring parts (the electrodes, palms, and soles) and try again. • Measure again with correct posture. • Do not move during measurement. • If the same error is repeated, please contact our company or its local distributor from where this device is purchased.
Out of range of body fat	When the subject's P.B.F. deviates from the limit - Incorrect input of personal data - P.B.F. is out of range	• Clean the electrode holders and try again. • After checking that there is neither something with wrong input of personal data (age, gender) nor with measuring error of weight and impedance, try again. • It can't measure if the P.B.F. is out of range. • When the same error occurs even after re-measurement, please contact our company or its local distributor from where the device was purchased.
Out of range of measurement	When the subject's fatness is deviated from the limit - Mechanical error	• Input height correctly or if installed height already, measure again. • Confirm to measure weight and try again correctly. • It can't measure if the fatness is out of range. • When the same error is occurred even re-measurement, please contact with our company or its local distributor where is purchased.
Insufficient electrode connection to Ankle	• When even one of all 4 electrodes connects with ankle insufficiently	• Connect to ankle all 4 electrodes once more.

Can’t input the height	When the subject’s height is deviated from the limit - Incorrect input of height	• Input height correctly. If the subject’s height is out of range, height can't be entered.
Can’t measure the weight	When the subject’s weight deviates from the limit - Measuring error - Moving during the measurement	• Measure the weight again. Don't move or speak during measurement. • It can't measure if the weight is out of range. • When the same error occurs even after re-measurement, please contact our company or its local distributor from where device is purchased.

2. Error occurrence & Repair

Error	Cause	Repair
In case that the P.B.F. is too low or too high	• Measuring method. Measuring is done under unstable hydration state such as just after physical exercise, a bath, sweating, drinking or overeating. • Move or speak during measurement • Electrode holders or measuring parts are dirty • Faulty in impedance measuring	• Measure again in stable physique. • If there is movement or speaking during measurement, the weight and impedance are not correct. Measure again correctly. • Try to measure again after cleaning the electrode holders with soft gauze. • Try again after cleaning the hands and soles. • Check if foreign materials are between electrodes and measuring parts. • Try again in correct posture and hold the electrodes according to the measuring method.
Machine doesn't Work When 'start' button is pressed	• When the electrode holders are disconnected from the main body or contact is faulty. • 'Start' button is defective.	• make sure that the electrode holders are connected to the main body well. • If the same error occurs even after connecting the electrodes well, please contact with company or its local distributor from where device is purchased.

AFTER SERVICE

1. AFTER SERVICE

If there is any problem with the unit, please follow the steps below;

※ Contact our company's Overseas Service Department immediately.

After gathering the model name, Serial Number, date of purchase and description of the problem, contact our company with information shown below.

※ Try to solve the problem over the phone with the personnel of local service department.

If the problem cannot be solved over the phone, return the unit directly to service department.

※ Our company or local distributor will make available on-request circuit diagrams, component part list, descriptions, calibration or other information which will assist your appropriately qualified technical personnel to repair those parts of the unit which are designated by our company as repairable.

How to contact our company

Write us at:

Jawon Medical Co., Ltd.

29, Gongdan 4-ro, Jillyang-eup, Gyeongsan-si, Gyeongsangbuk-do, Korea

TEL: 82-53-856-0993

FAX: 82-53-856-0995

(You can also contact the following representative or your local distributor)

2. PACKING AND TRANSPORT

Our company wraps this device up with the most suitable method to protect it from any impact or damage during shipping and transporting. This device can be damaged during delivery if it is packed in other ways except the one our company uses. Please handle this device carefully without any impact in packing and delivery.

If this device needs to be transported wrap this device up again and transport it as follows.

① Turn off the power.

② Turn off the power of the peripheral devices and disconnect all cables.

③ Disassemble the device in reverse order of assembly.

④ Pack the device with the original packing materials.

⑤ Transport it carefully.

SPECIFICATION

Model	X-SCAN PLUS 950
Measuring method	BIA via tetra-polar electrode method using 8~12 touch electrodes
Range of frequency	1, 5, 50, 250, 550,1000 kHz
Measuring site	Whole body and segmental measurement(arms, legs and trunk)
Result contents	**Body Composition Result** Weight, Standard weight, Lean body mass, Mass of body fat, Subcutaneous fat mass, Skeletal muscle mass, Soft lean mass, Protein mass, Mineral mass, Total body water, Intra cellular water, Extra cellular water, Body mass index, Percent of body fat, Ratio of E.C.W./T.B.W., Waist to hip ratio, Visceral fat level, Visceral fat mass, Visceral fat area, Prediction of abdominal fat, Target to Control(Control of Body fat, Control of Soft lean mass, Control of Weight), Body composition change (8 times of Ratio of E.C.W./T.B.W., Percent of body fat, Soft lean mass, Weight), Segmental dual graph of soft lean mass, Body type, Body cell mass, Basal metabolic rate, Total energy expenditure, Age matched of body, Total score, Study item (Segmental impedance classified by frequency), Blood pressure (if it is interlocked with blood pressured monitoring system), QR code **Segmental Result (Option)** Segmental total body water, Segmental intra cellular water, Segmental extra cellular water, Segmental ratio of E.C.W./T.B.W., Segmental E.C.F./T.B.F., Segmental soft lean mass, Segmental mass of body fat and percent, Study item (Segmental impedance classified by frequency) **Result sheet for children (Option)** Weight, Standard weight, Lean body mass, Mass of body fat, Subcutaneous fat mass, Skeletal muscle mass, Soft lean mass, Protein mass, Mineral mass, Total body water, Intra cellular water, Extra cellular water, Body mass index, Percent of body fat, Waist to hip ratio, Body type, Fatness, Child growth curve (height, weight), Body cell mass, Basal metabolic rate, Total energy expenditure, Age matched of body, Nutritional assessment, Body composition change, Segmental soft lean mass, Segmental mass of body fat, Study item (Segmental impedance classified by frequency), QR code
Current	About 180μA ± 15
Power supply	Input: AC 100 ~ 240V, 50 / 60Hz Output: DC 12V, 5A adapter
Display	8.4inch wide color LCD
Input device	Key pad, Touch screen, PC remote control
Transmission device	USB port, RS-232C, Bluetooth, Wi-Fi (Option), Available of external port extension (Option)
Printing device	USB port
Dimension	496 x 820 x 1150mm (W x D x H)
Weight	About 42kg(main unit)
Measuring range	100 ~ 950 Ω
Measuring time	Totally within 1 minute
Applicable height	50 ~ 220 cm / 1ft 7.7in ~ 7ft 2.6in

Measuring weight	10 ~ 270 kg / 22lb ~ 594lb
Applicable age	1 ~ 99 years old
Operation ambient	Ambient temperature range +5 to +40 °C Relative humidity range 15 to 93 % (non condensing)
Storage ambient	Ambient temperature range -25 to +70 °C Relative humidity range lower than 93 % RH

※ For purpose of improvement, specifications and design are subject to change without notice.

WARRANTY

Name of product	Body composition analyzer		
Name of model	X-SCAN PLUS 950		
Serial number			
Period of warranty / Date of purchase	Within 1 year from the date of purchase		
Customer	Add	Name Tel	
Dealer (market)	Add	Name Tel	

Note

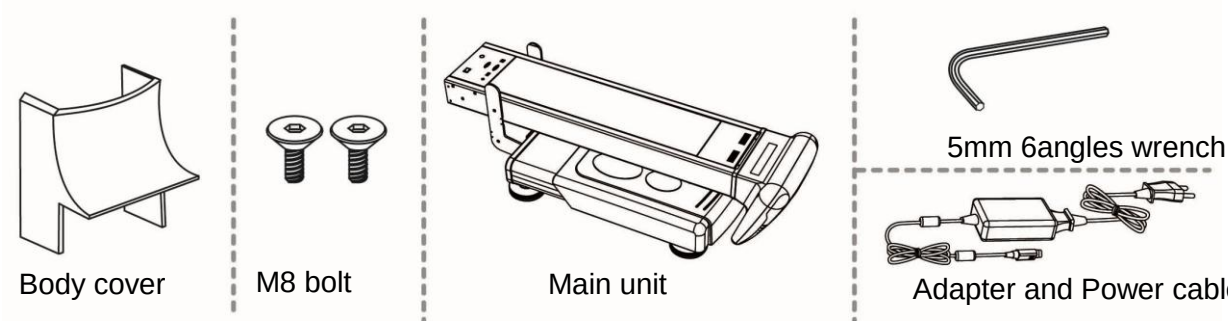
- When you receive this warranty, make sure that the name of the dealer and the month, day and year of purchase are all completed.
- This warranty will not be reissued, please keep it in a safe place.

INSTRUCTIONS FOR ASSEMBLY

1. How to install a device

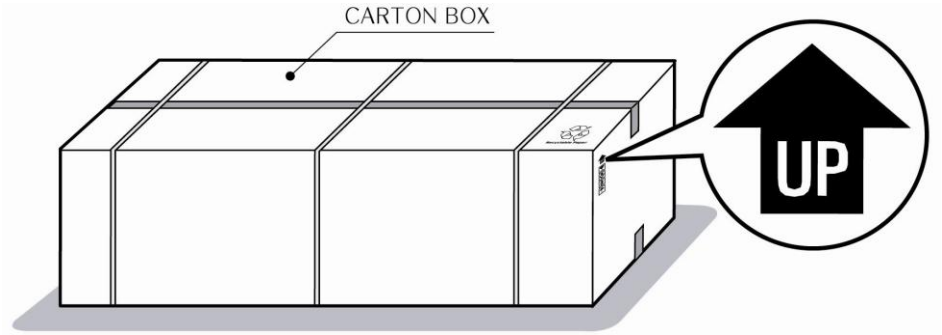
To ensure the operator's security, please work in team of minimum two people during installation, packing and transport.

(1) Components



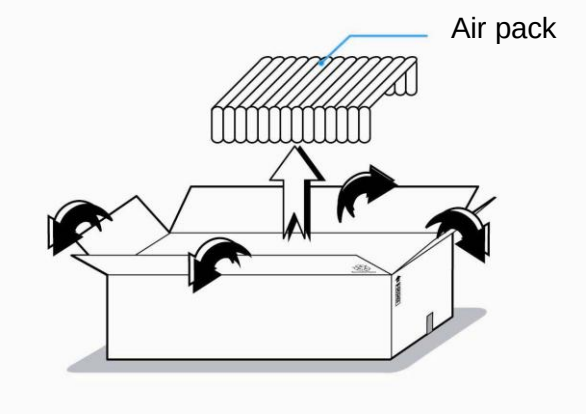
(2) Unpacking

① "UP" mark should be indicated on the top side of the box when you place the Carton box on a surface.



② Remove the strap with a scissor or a knife. Make sure not giving any impact to the device.

③ After opening the Carton Box, fold the box cover outwardly not give contact to the air pack for protecting products. Take out the protection air pack and check its components inside.



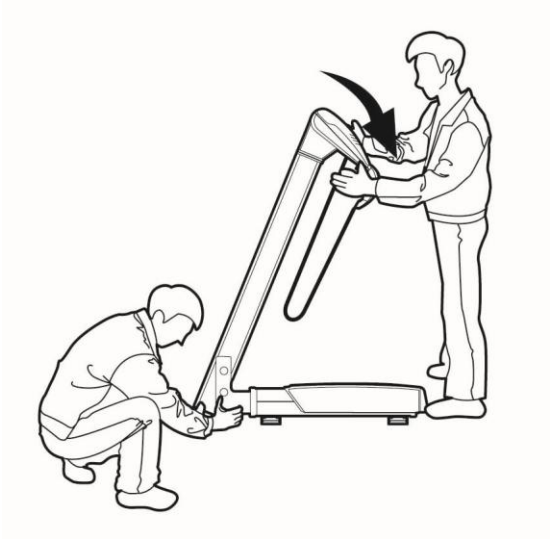
(3) Installation

① More than two workers hold the device, and lift it up. Take the device out of the Carton Box.

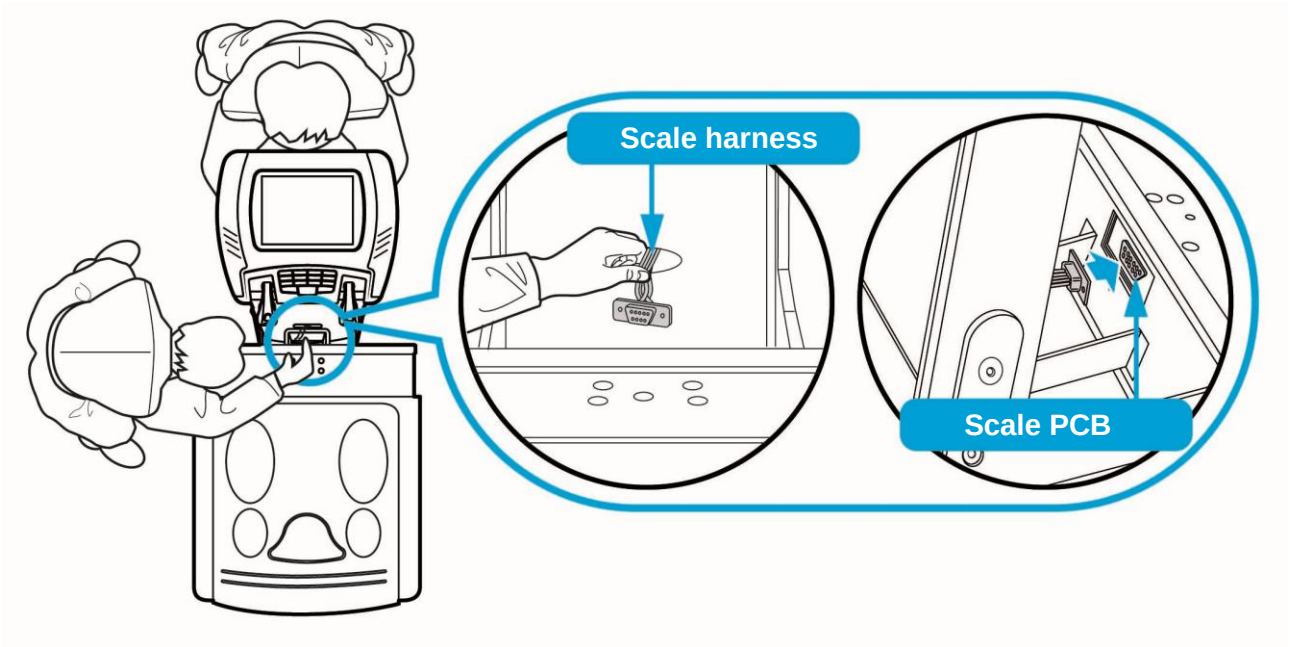
② Stand the Body on the flat surface where the slope is less than 10°.

③ While one person is holding the column, remove the plastic package from the Body and scale.

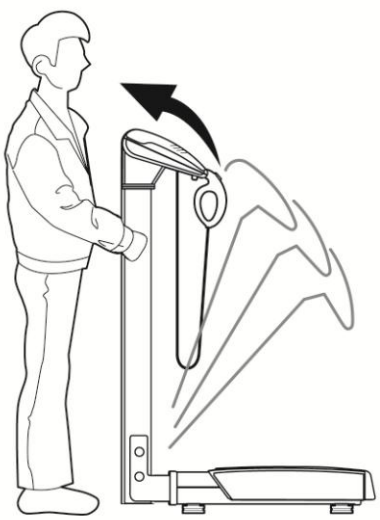
④ Incline the body part of the device about 10~20° in the arrow direction as shown in the picture for connection between scale harness and scale PCB.

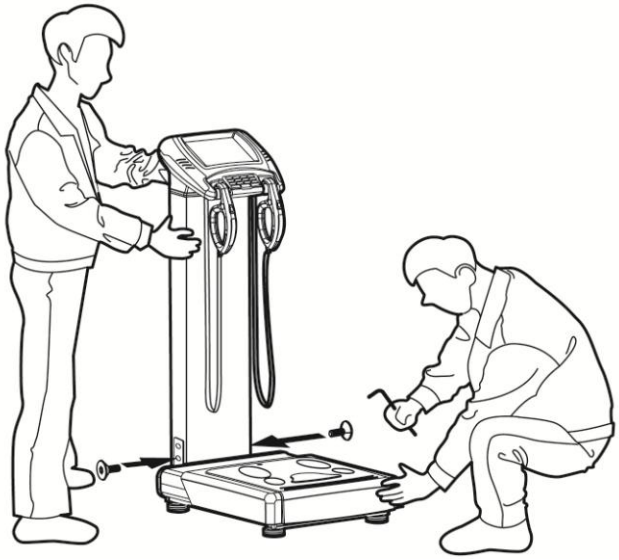


⑤ Please pull out scale connection harness from the hole of the lower part of the body and connect it to the scale PCB which is on the reverse side. At this moment, the person who supports the body has to hold it tightly so the other person who assembles it does not get hurt.



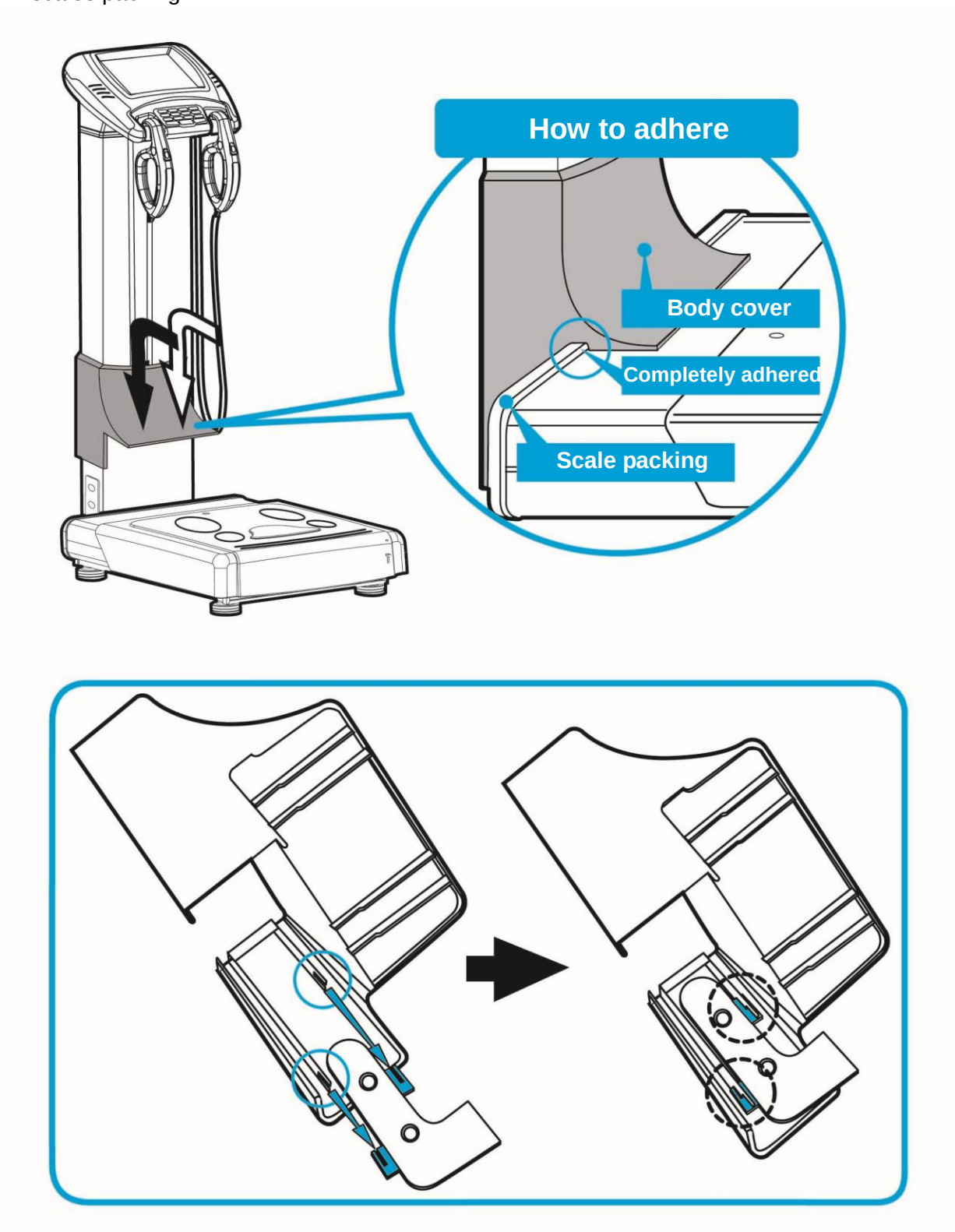
⑥ After connecting the scale harness and the scale PCB, stand the body up.
One person screws 2pcs of M8 bolts in the left and right side of the body using 5mm L wrench while the other holds the body as shown in the picture.





(4) Assembling the body cover

① Push the body cover in the arrow direction shown in the picture below and adhere to the scales packing.



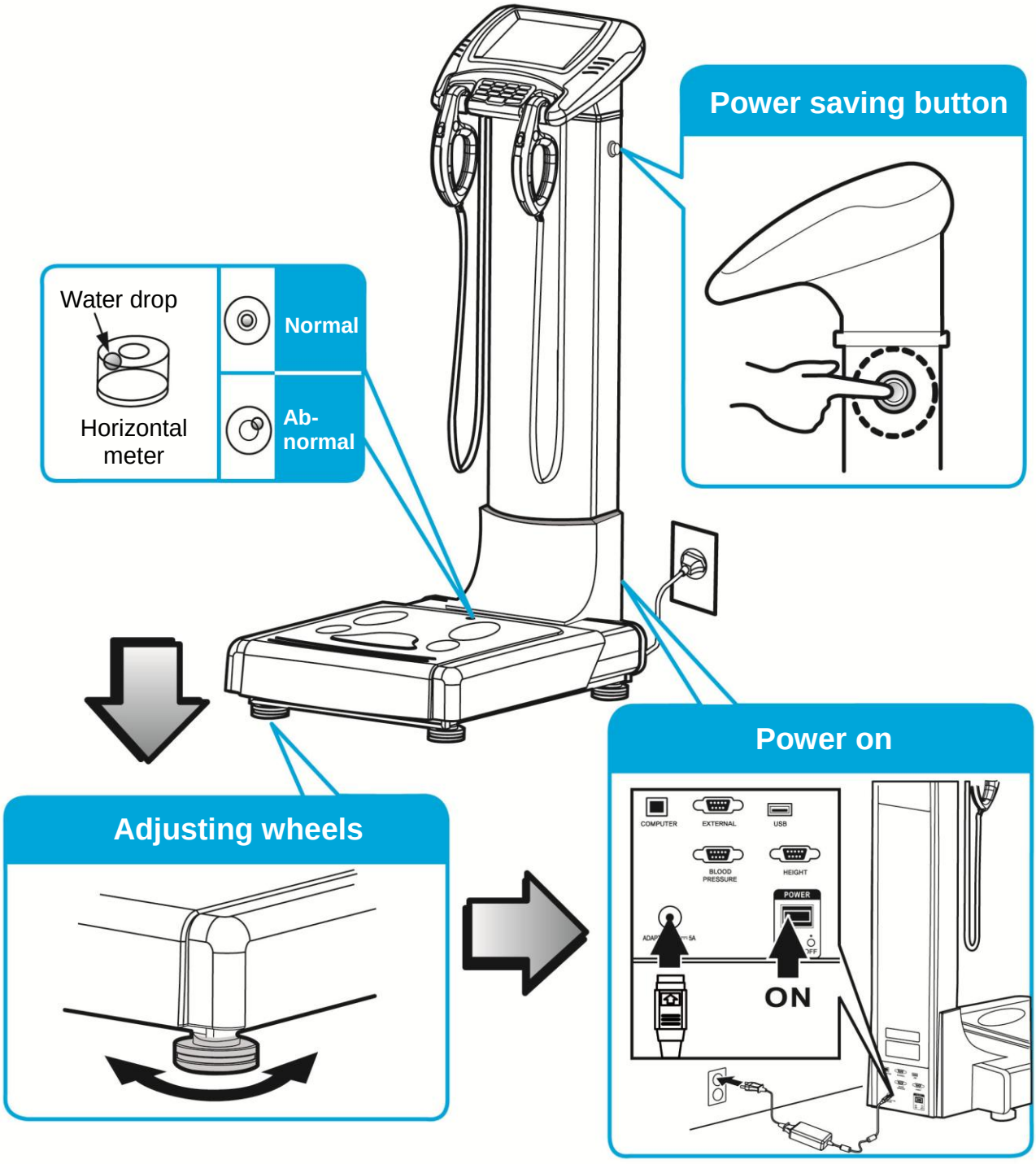
(5) Adjust the level & Turn on the power

Check the level of the device.

If it is not at level, adjust the level using the four wheels.

After adjusting the level, connect the provided adapter and power cable and turn on the device.

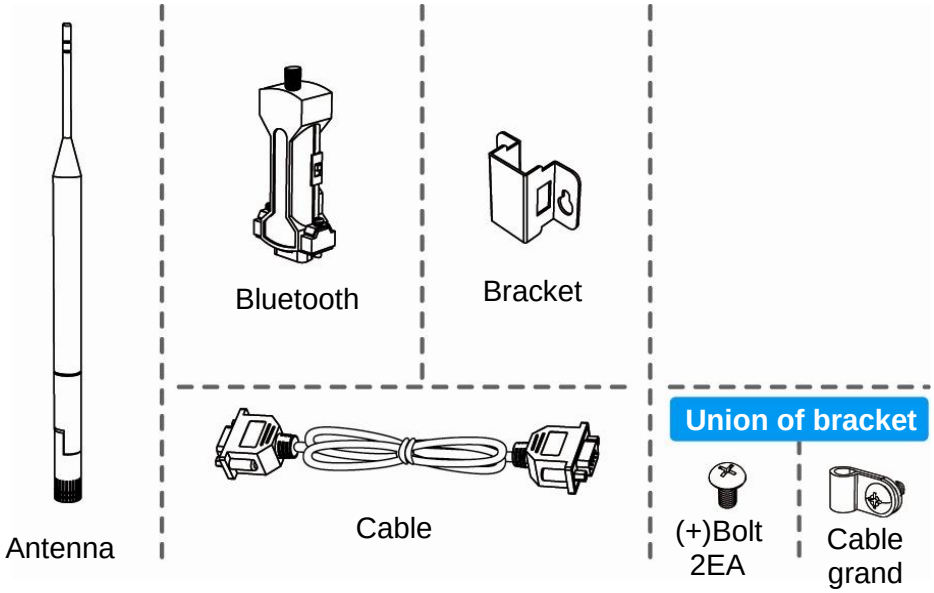
If you press the power saving button on the right side of the column as shown in the picture, it turns to power saving mode.



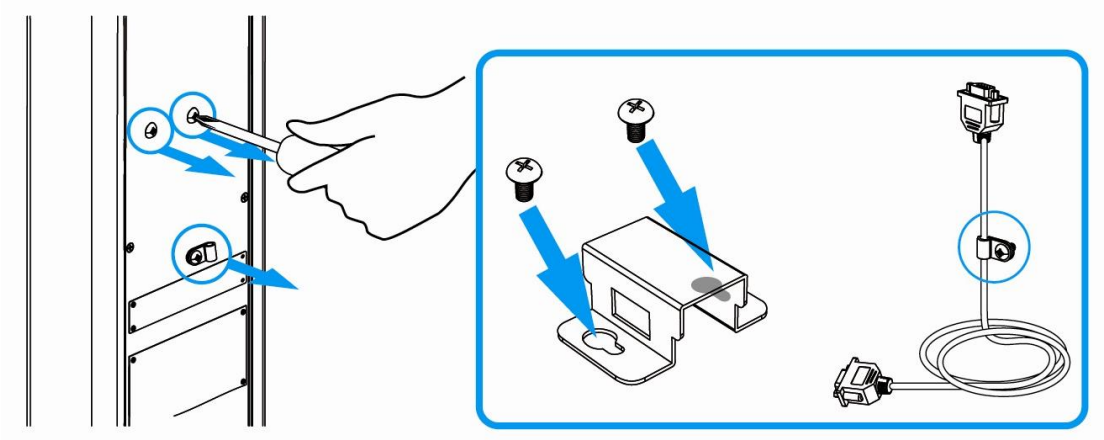
2. Assembling an Bluetooth (option)

Connect the provided Bluetooth to the BLUETOOTH port on the back side of the device. Users can check and manage the result data on the exclusive mobile device app via Bluetooth connection.

① Components for Bluetooth

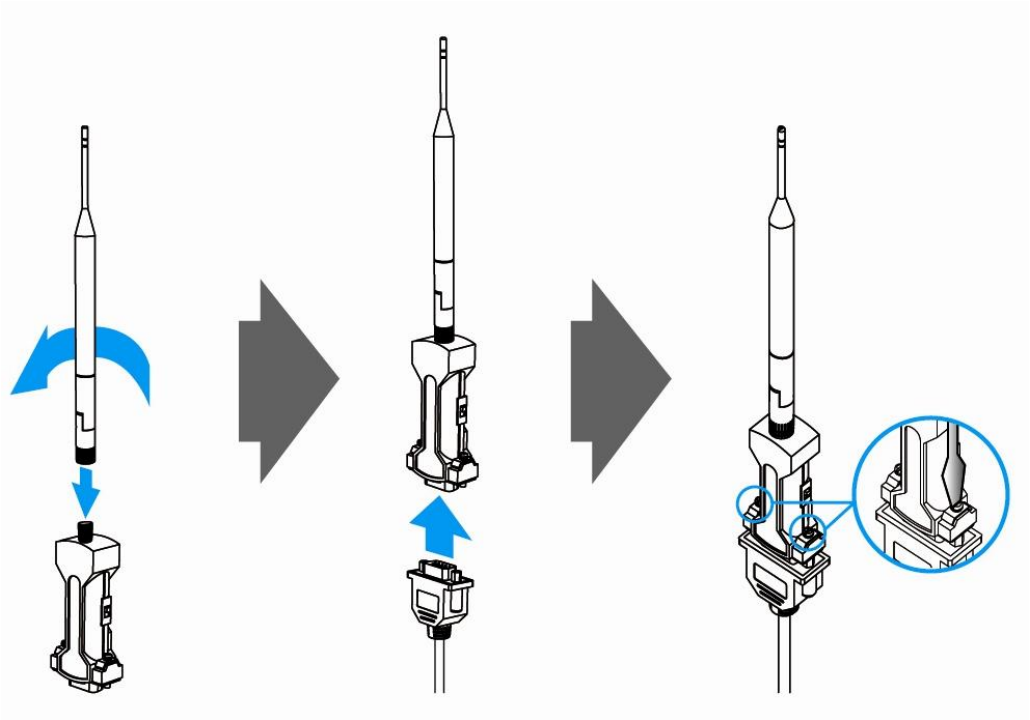


② Unscrew the (+) bolts (2EA) and cable grand (1EA) with a (+) driver. Keep the separate (+) bolts (2EA) and cable grand (1EA) to assemble a bracket and cable later.

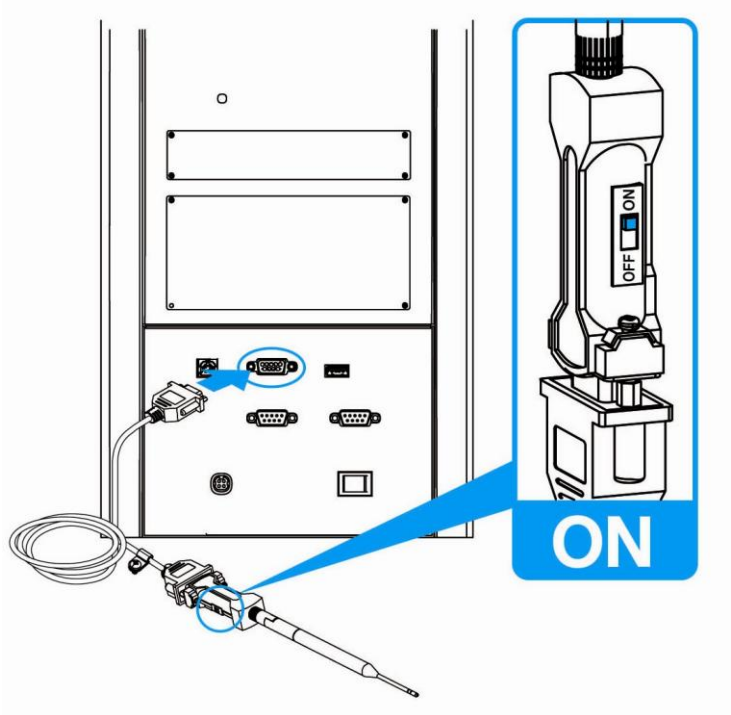


③ Connect the antenna to the Bluetooth.

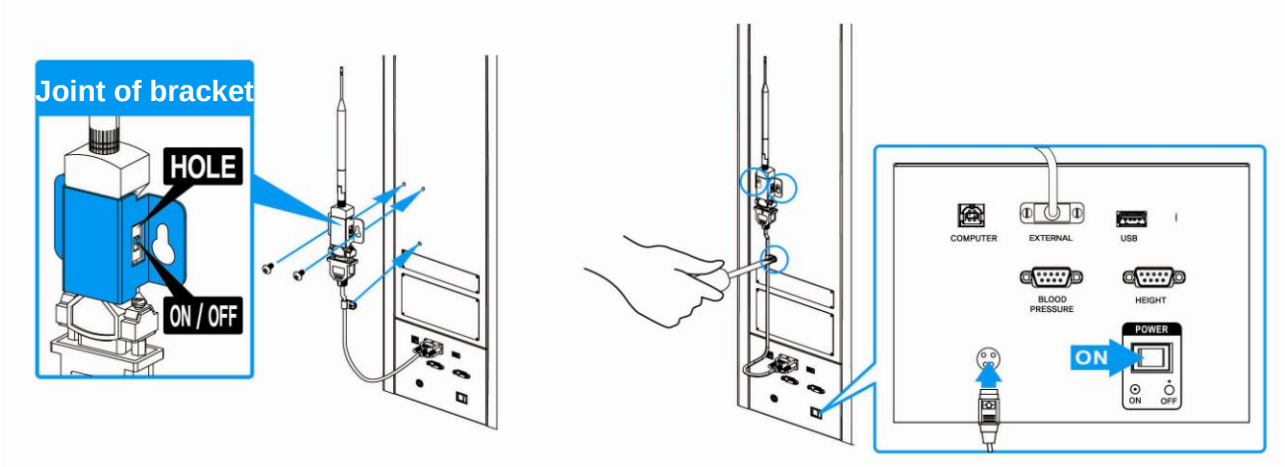
Connect the main body connecting cable to the reverse side of the antenna and fix the cable by screwing the bolts in with a (-) driver.



④ Connect the unconnected side of the cable to ‘EXTERNAL PORT’ on the back side of the main body and then switch on the Bluetooth.



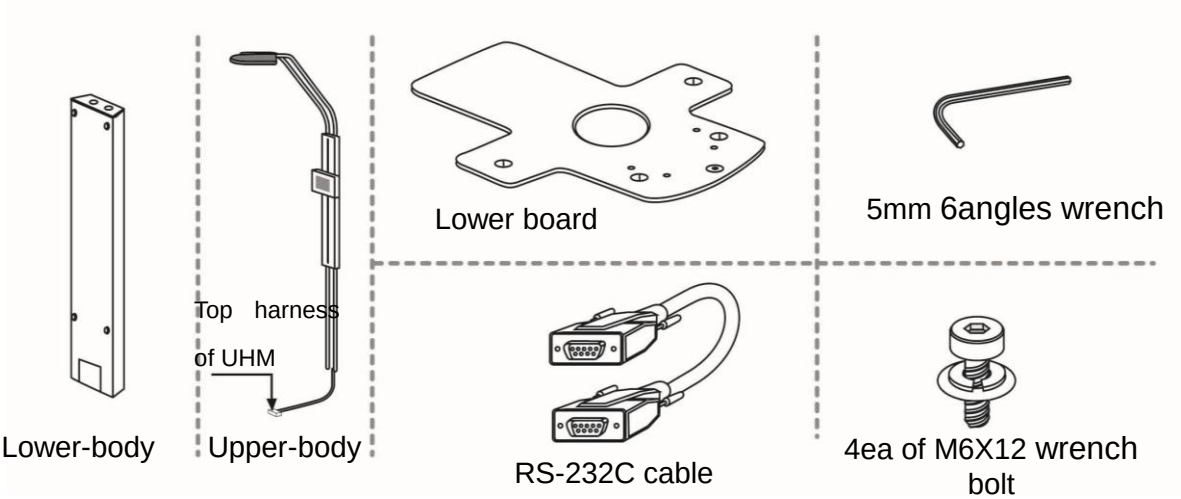
⑤ Fix the Bluetooth to the back side of the main body with the provided bracket using a (+) driver. The installation is completed by turning on the device.



3. Assembling an ultrasonic height meter (option)

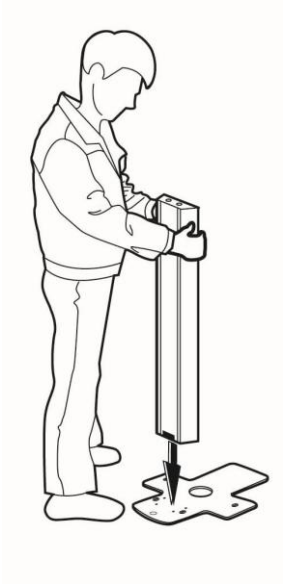
When installing, packing and transporting, please work in teams of minimum 2 people to ensure safe operation.

(1) Components for installing an ultrasonic height meter

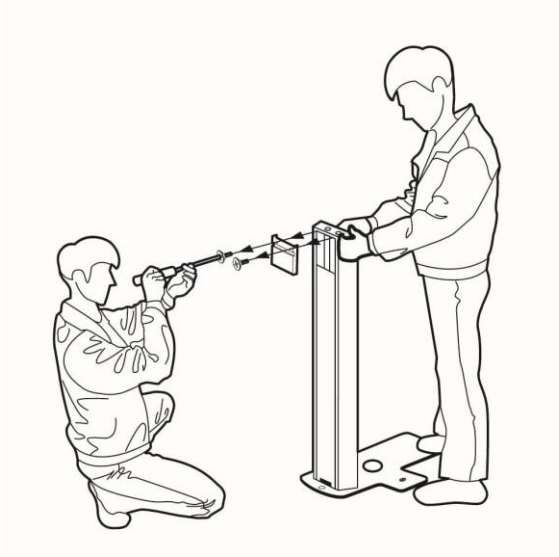


(2) Assembling the lower-body

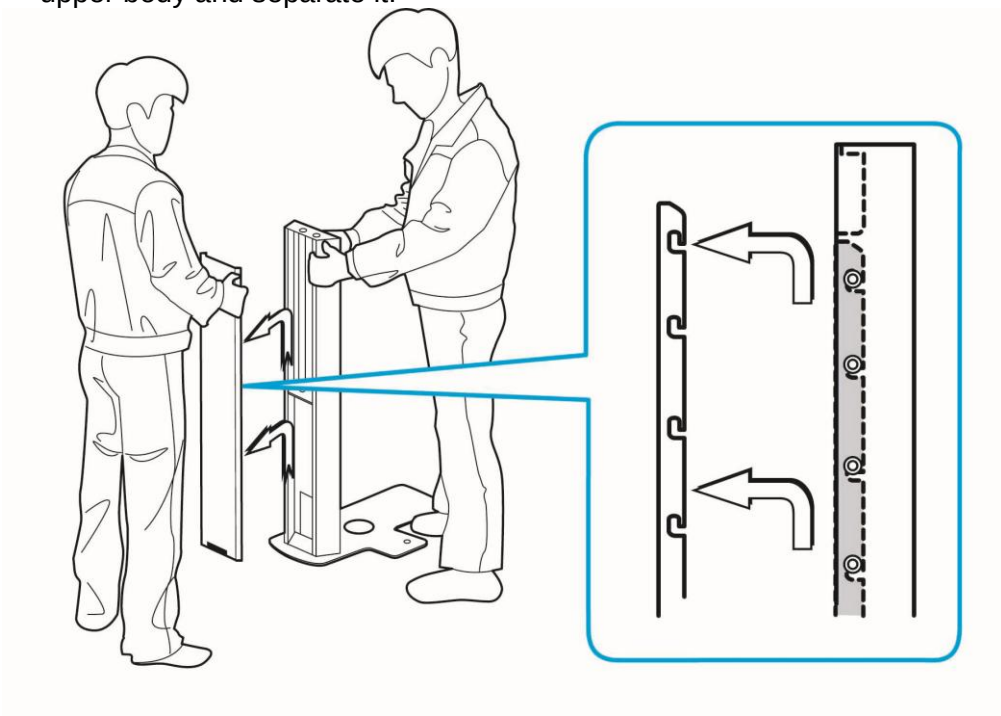
① Put the bottom board on the floor and fix the lower body as shown in the picture.



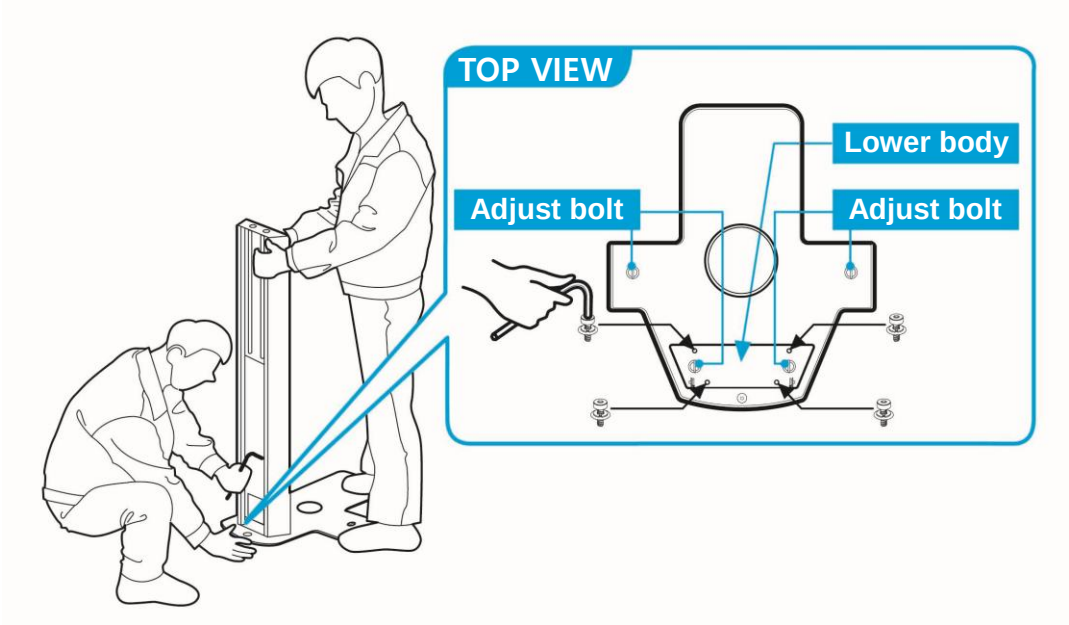
② A person grasps the lower body not to be shaken and the other unscrews two fixing bolts from the back cover on the upper body using a (+) driver and separate it.



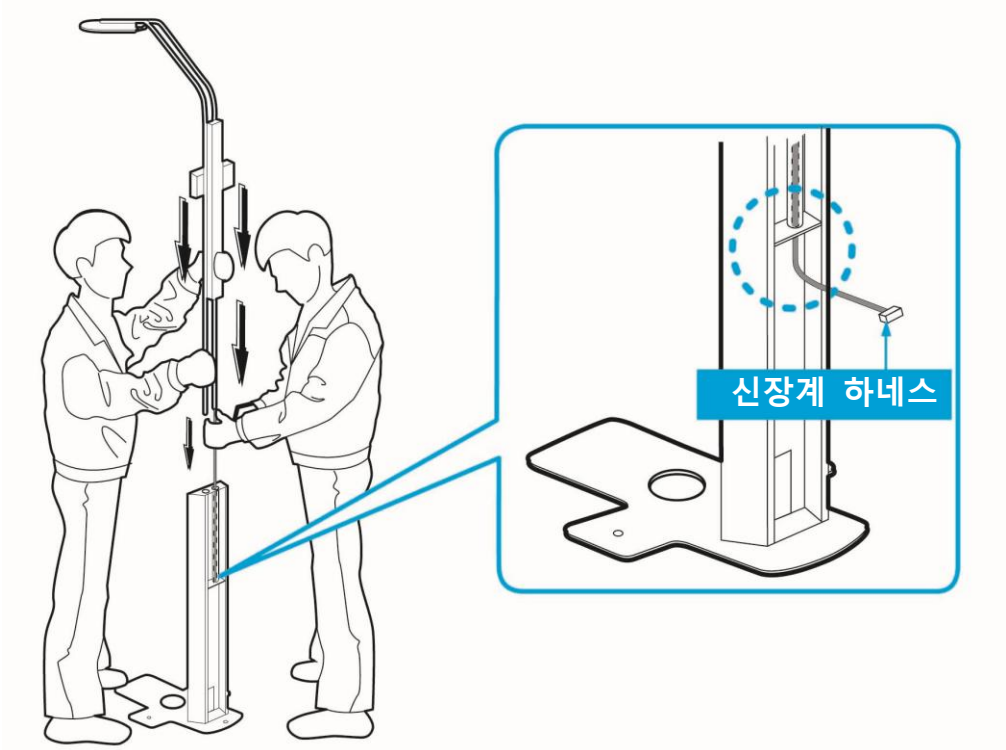
③ A person grasps the lower body not to be shaken and the other lifts up the back cover on the upper body and separate it.



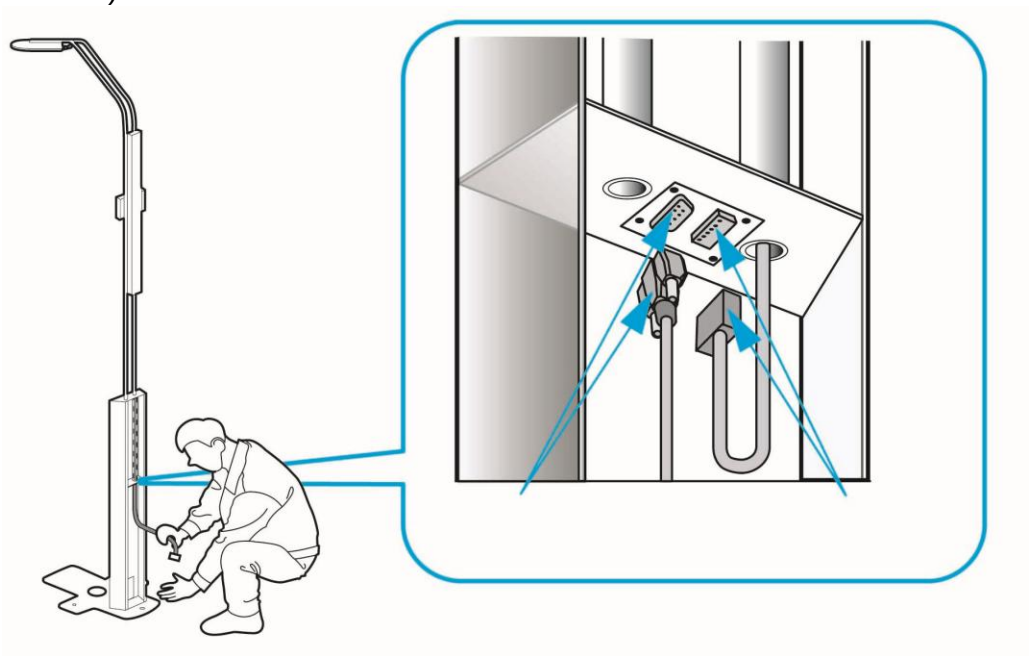
④ Fix the M6X12 wrench bolt to the groove on the bottom side of the lower body of the height using the 5mm 6angles wrench.



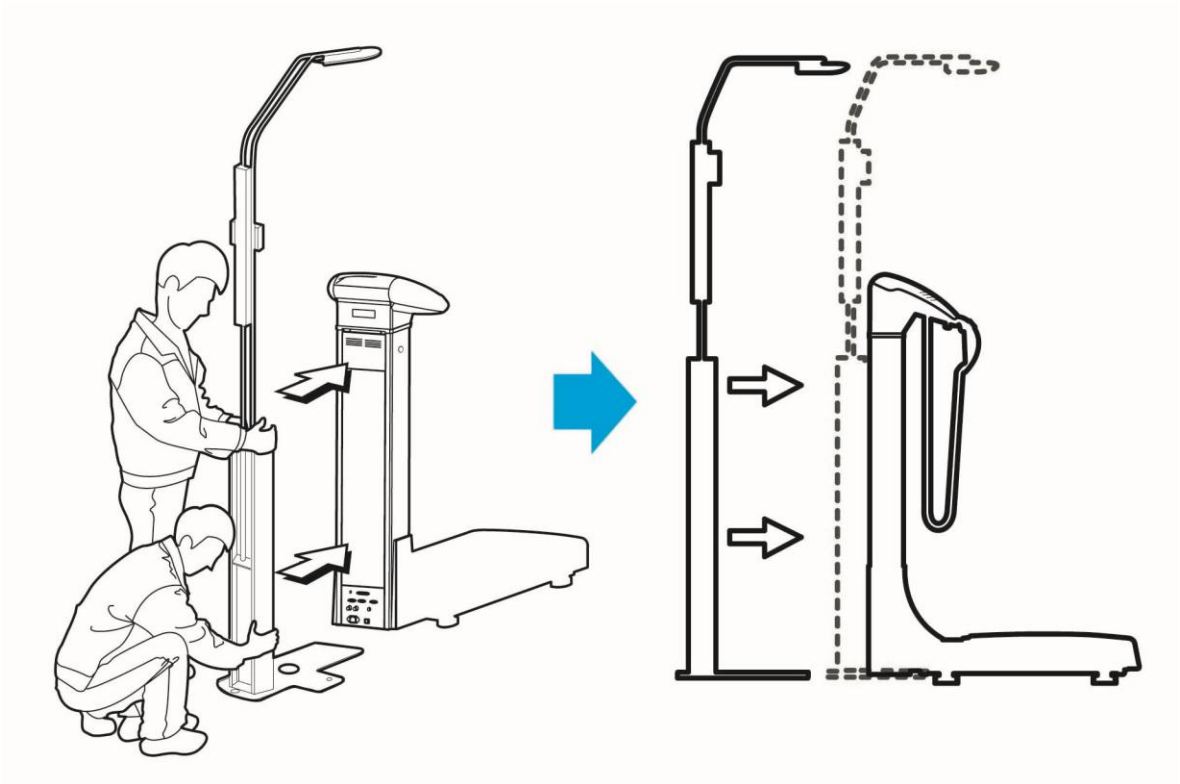
⑤ While a person takes the top harness of UHM out to the inside of the lower board, the other puts a upper body supporter into two halls on the top of lower body as shown in the picture.



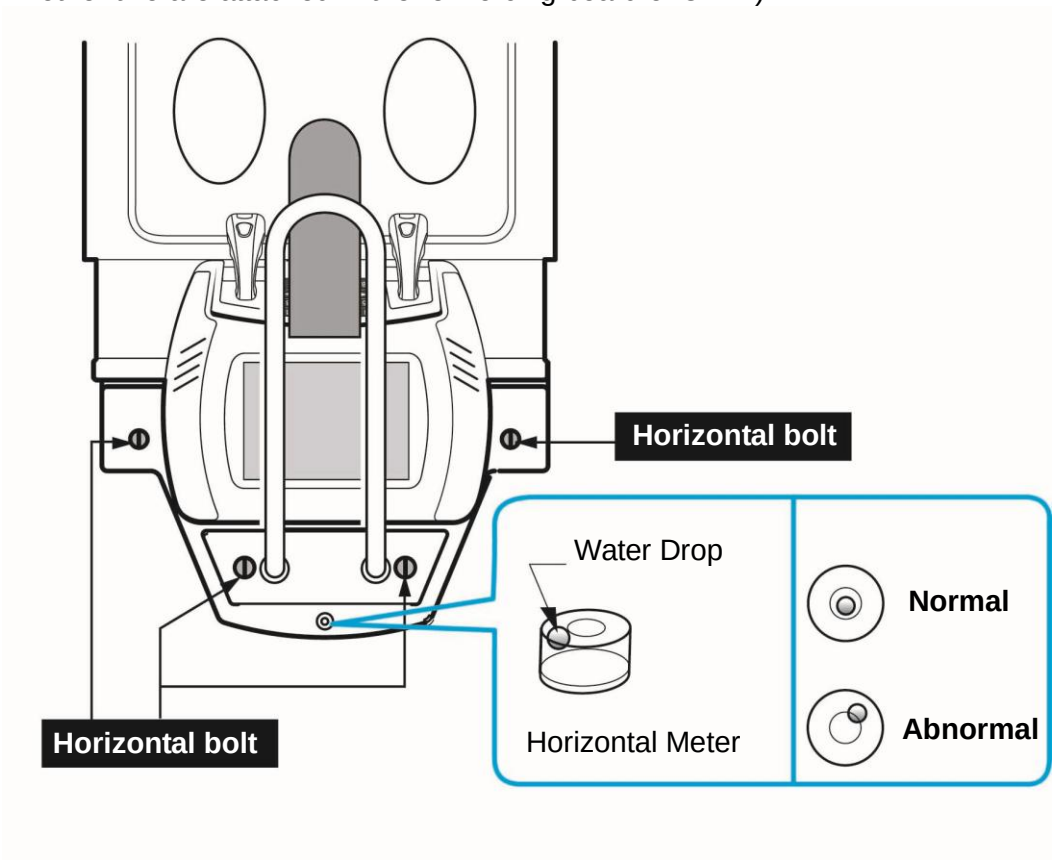
⑥ Connect one side of the connector of the RS0232C cable which is separately packed apart from the harness of UHM to the port attached to the inside of the lower board of the height meter. (The connector on the other side of the RS-232C cable will be connected with the BCA.)



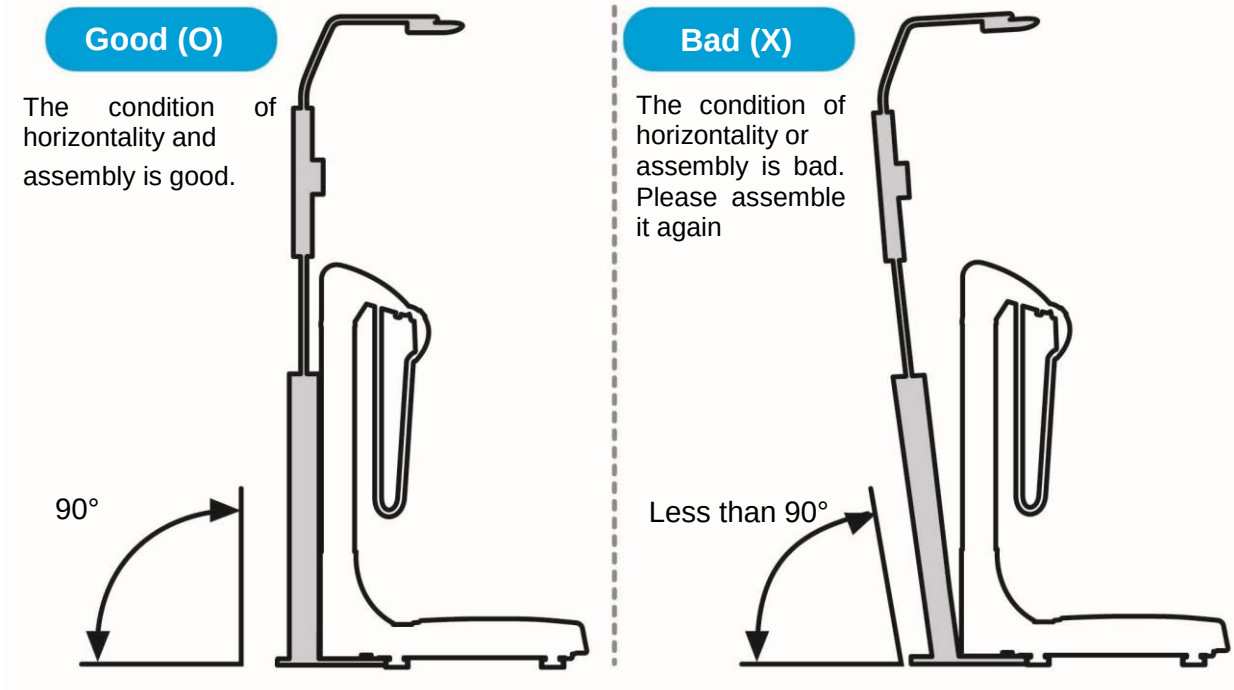
⑦ Push and adhere closely the UHM as shown in the picture.



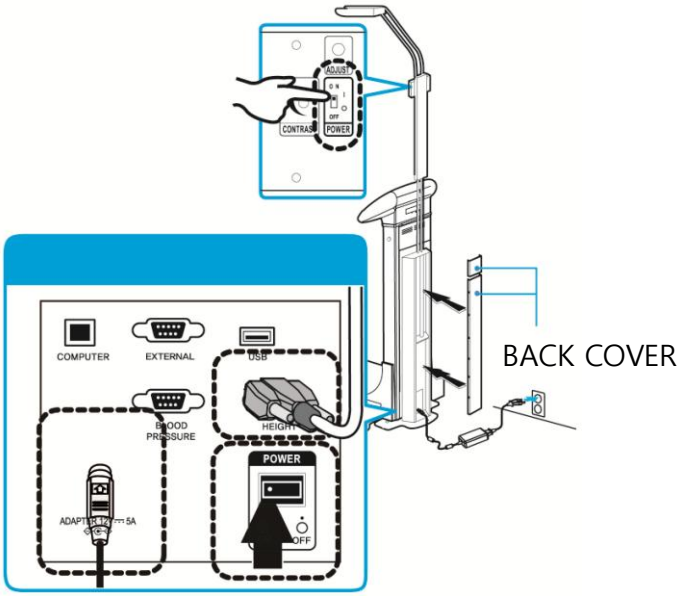
⑧ Set the level of the horizontal meter by spinning 4pcs of horizontal adjusting bolts. (Two horizontal adjusting bolts are attached in the bottom of the lower board of UHM and the other two are attached in the reinforcing board of UHM.)



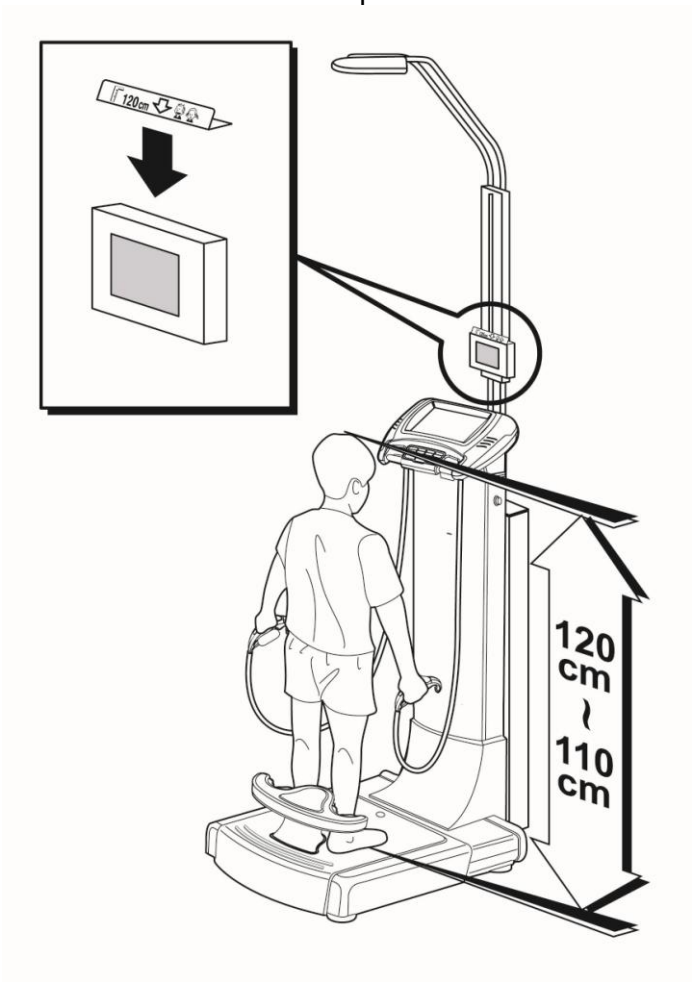
⑨ Check the condition after adjusting the level.


Good (O)
The condition of horizontality and assembly is good.
90°
Bad (X)
The condition of horizontality or assembly is bad. Please assemble it again
Less than 90°

⑩ Connect the RS-232C Cable to “HEIGHT” port on the backside of the device as shown in the picture and then connect the adapter. After connecting cables, turn on the main body and UHM.

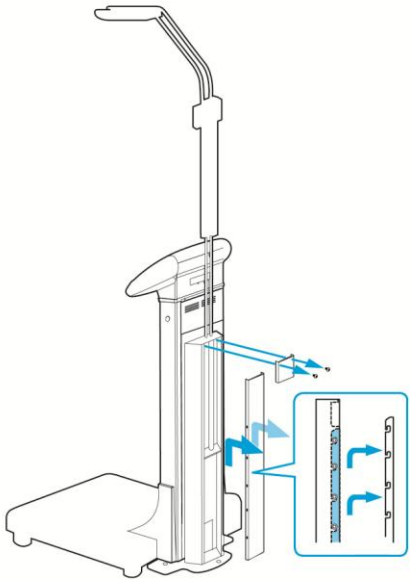


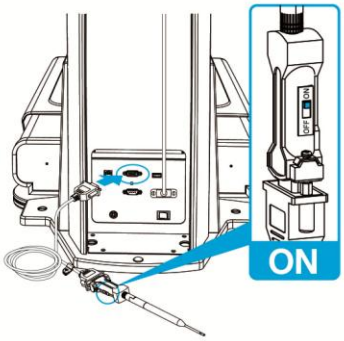
⑪ If a height is less than 120cm, measure the height after putting a reflector down on the LCD of UHM as shown in the picture.



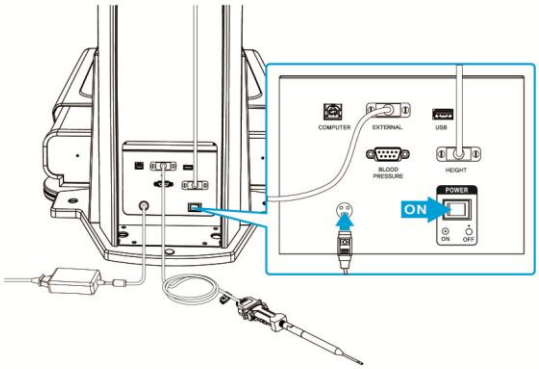
(3) Connecting Height meter + Bluetooth

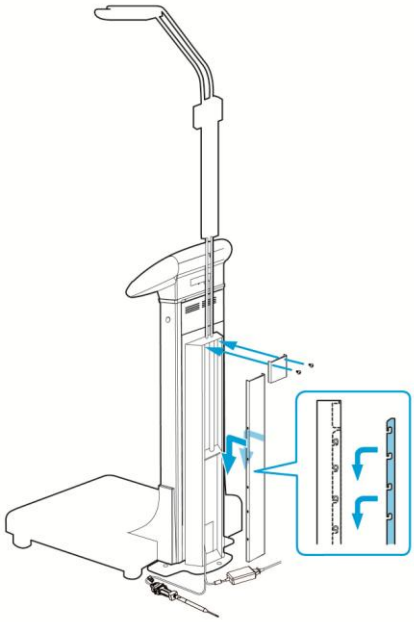
① Unscrew the fixing bolts on the upper cover of the backside of the height meter and lift up the lower cover to the arrow direction using a (+) driver and separate the cover.
Connect the Bluetooth which connected with a cable to the ‘EXTERNAL' port on the back side of the device and switch on the Bluetooth.



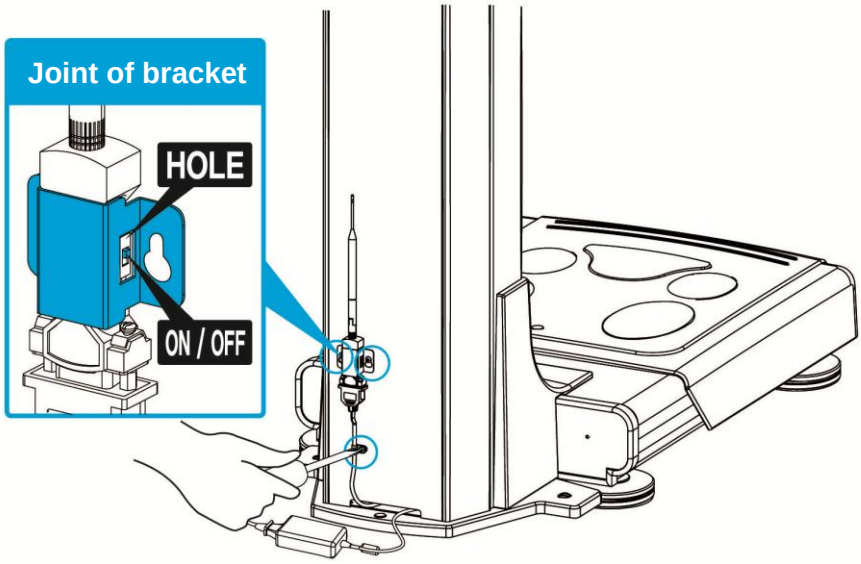


② Connect the adapter of the main body and turn it on. Push and pull down the lower cover to the arrow direction and then fix the upper cover with bolts.





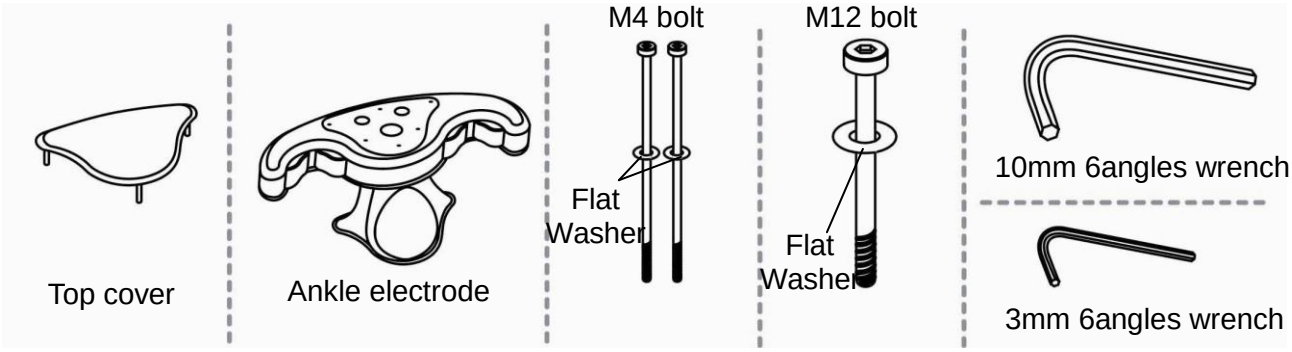
③ Check the location of the bracket hole and stick to the Bluetooth and fix it on the backside of the height meter as shown in the picture.



4. Assembling an ankle electrode (option)

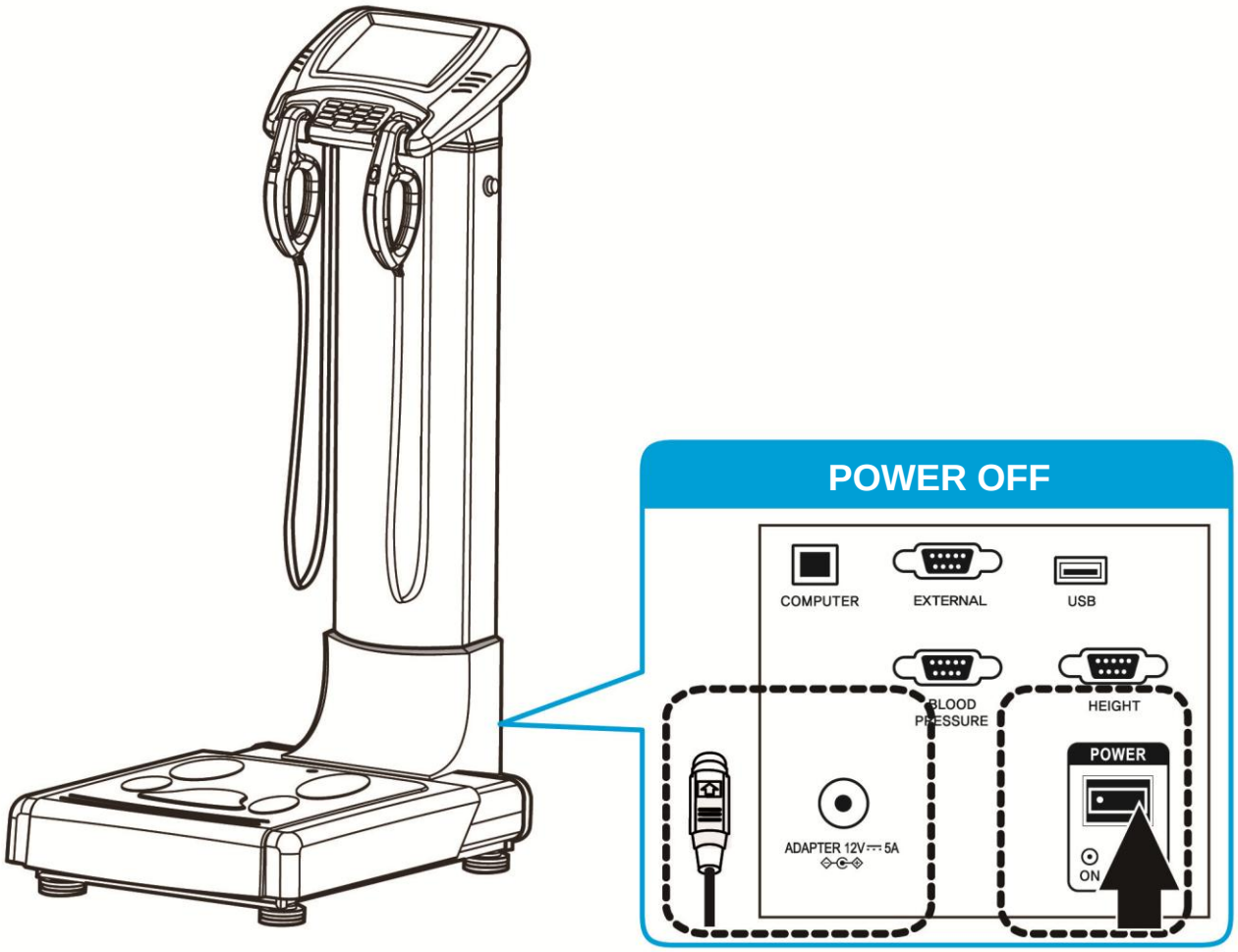
When installing, packing and transporting, please work in teams of minimum 2 people to ensure safe operation.

(1) Components for installing an ankle electrode



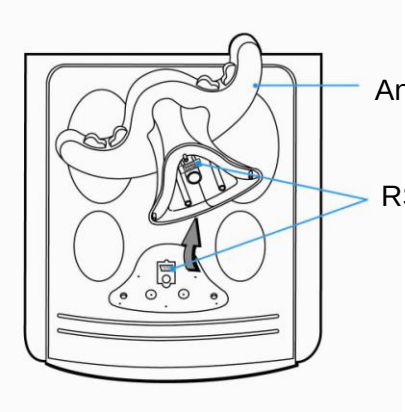
(2) Installing an ankle electrode

① Turn off the power of the device and disconnect the power cable before installing an ankle electrode.

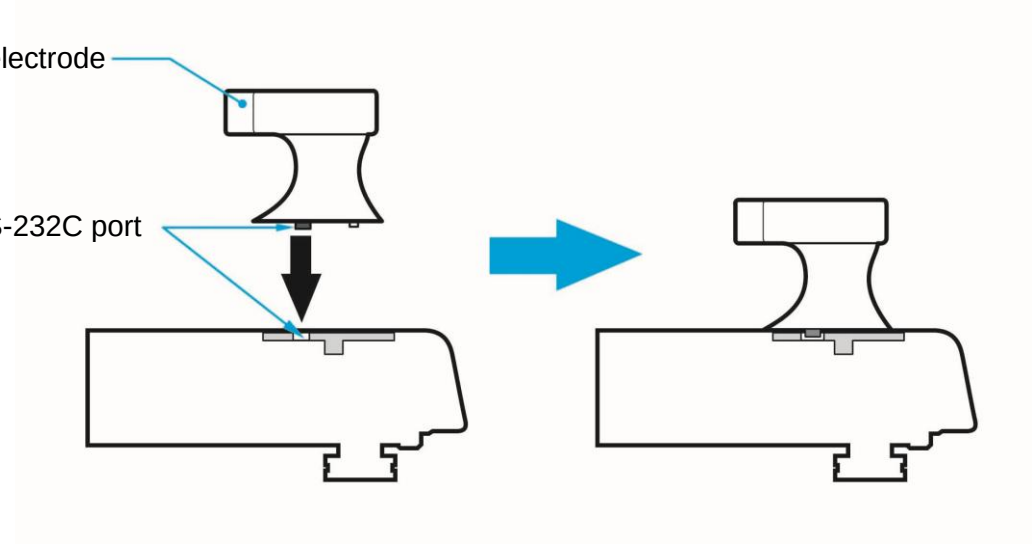


② Detach the top cover from the scale by using a (-) driver.

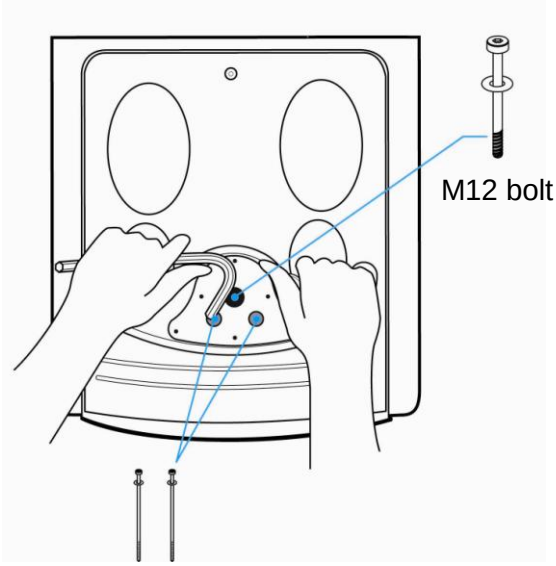
③ Check the RS-232C port of the weight scale and ankle electrode.



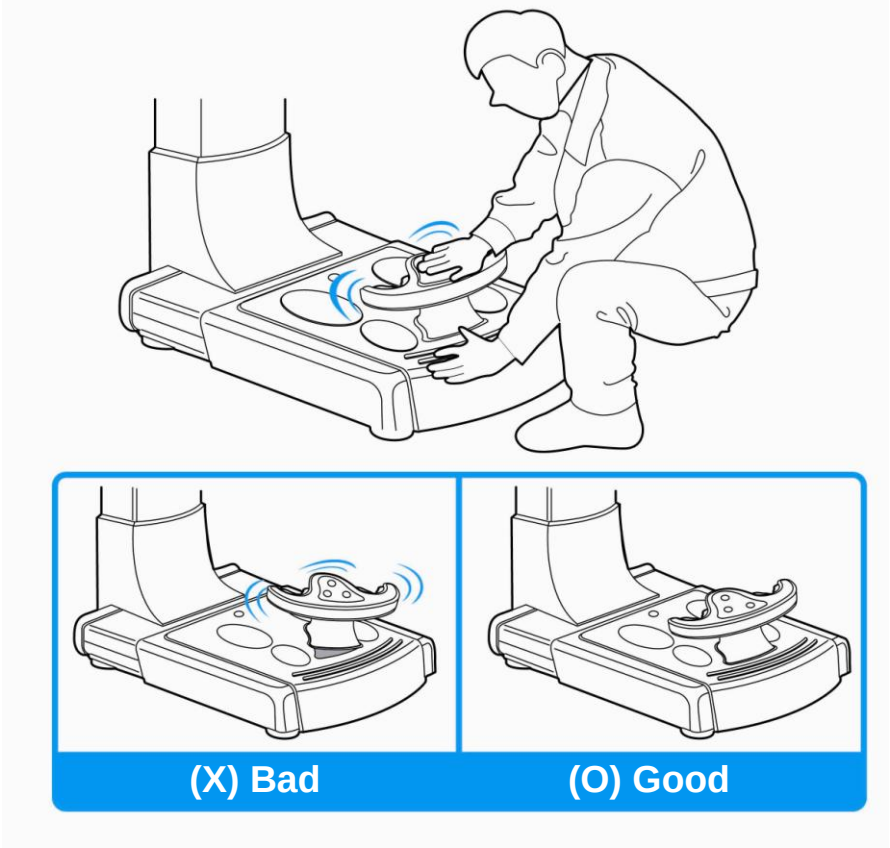
④ Connect the RS-232C port of the ankle electrode to the weight scale as shown in the picture.



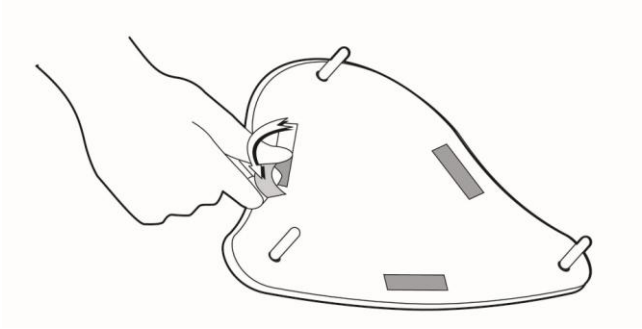
⑤ Grip the ankle electrode with one hand and fix it on the scale firmly by using M12 bolt-10mm 6 angle wrench and M4 bolt-3mm 6 angle wrench.



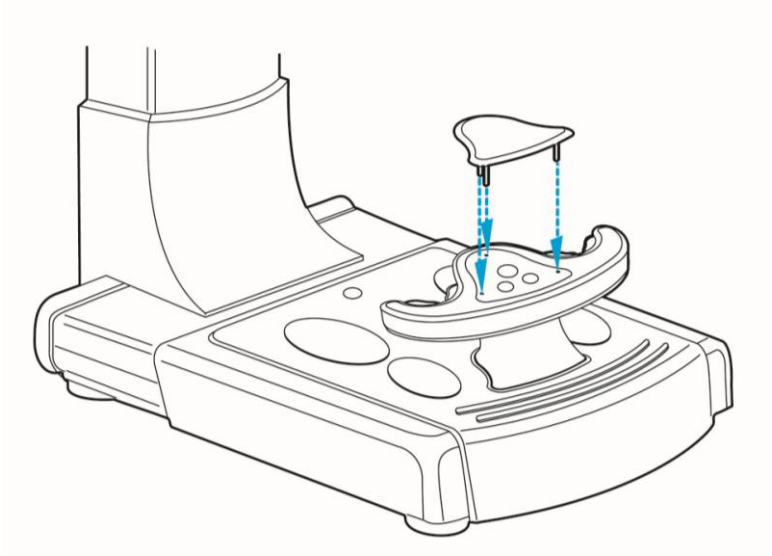
⑥ After that, try shaking the ankle electrode to check if the fixation is good or not.



⑦ Remove the protective vinyl and double-faced sticker inside of the top cover.

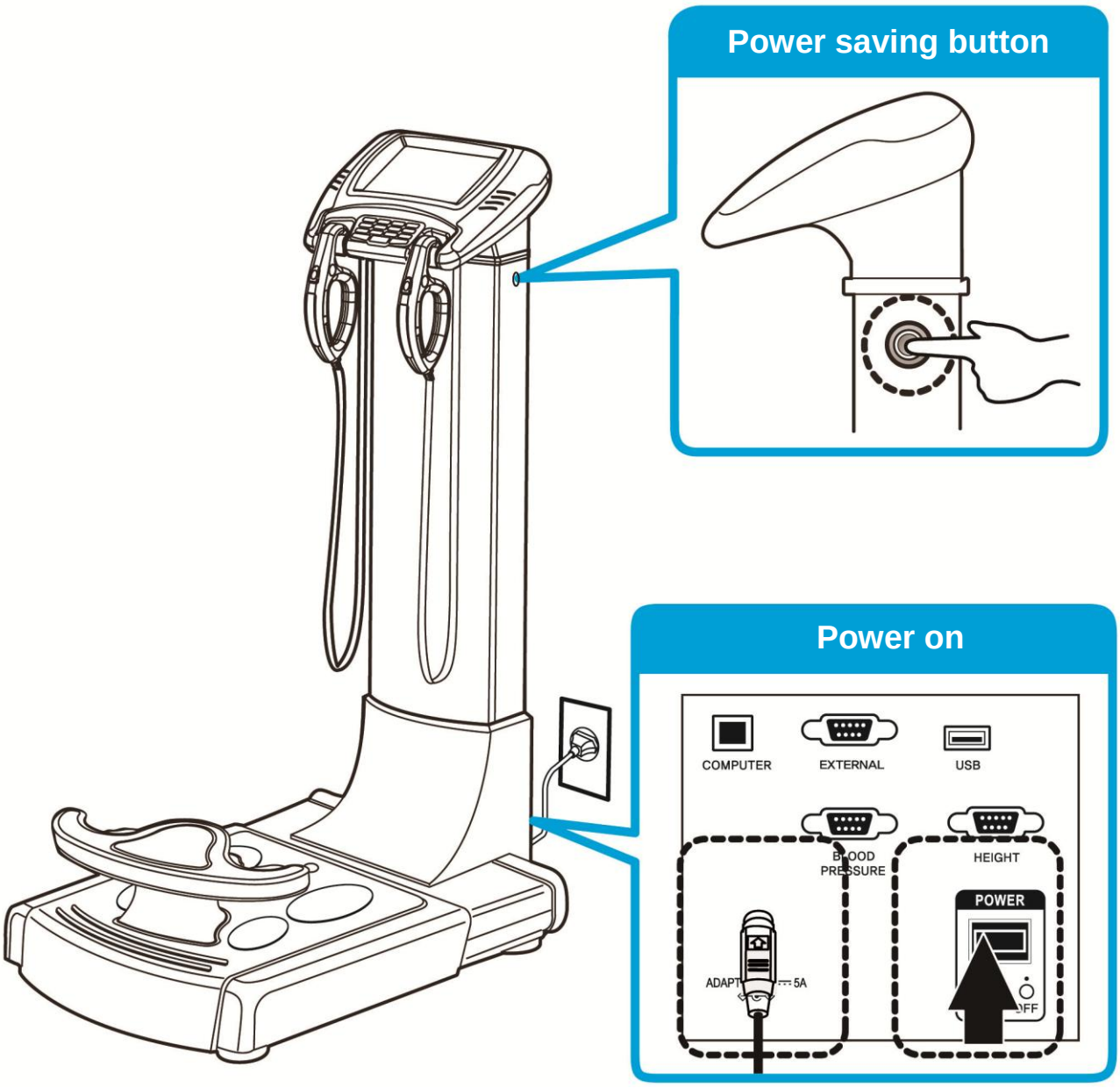


⑧ Attached the top cover on the ankle electrode to the arrow direction in the picture.



⑨ Power on

After finishing the installation, connect the adapter and power cable and turn on the device.
If you press the power saving button on the right side of the column as shown in the picture, it turns to power saving mode.



Periodic Check List

Management No. _____

Item		Inspection Subject	Requirements	Judgment	Remarks
Visual Check					
Mainframe	1	Enclosure	No scratch, crack, deformation and rust	Pass/Fail	
	2	Labels and panels	No peeling and dust	Pass/Fail	
	3	LCD	No damage	Pass/Fail	
	4	Electrode	No scratch and damage	Pass/Fail	
Accessories	1	Power cord	No scratch and damage	Pass/Fail	
	2	User manual	Kept in proper place	Pass/Fail	
Mechanical Check					
Mainframe	1	Keys	Smooth operation	Pass/Fail	
	2	Recorder	Smooth operation with no abnormal sound	Pass/Fail	
	3	Touch Screen	Smooth operation	Pass/Fail	
Accessories	1	Power cord	Smooth operation and removal	Pass/Fail	
Electrical Check					
Performance	1	Power supply	Screen display upon power-on	Pass/Fail	
	2	Display	No abnormality and flickering	Pass/Fail	
	3	Printing	printing possible	Pass/Fail	
	4	Measurement	Proper measurement	Pass/Fail	
General Judgment				Pass/Fail	
Model		X-SCAN PLUS 950		Serial No.	
Installation place				Date of purchase	
Check date		Checked by		Approved by	

Daily Check List

Management No. _____

Item		Inspection Subject	Requirements	Judgment	Remarks
Visual Check					
Mainframe	1	Enclosure	No scratch, crack, deformation and rust	Pass/Fail	
	2	Labels and panels	No peeling and dust	Pass/Fail	
	3	LCD	No damage	Pass/Fail	
	4	Electrode	No scratch and damage	Pass/Fail	
Accessories	1	Power cord	No scratch and damage	Pass/Fail	
	2	User manual	Kept in proper place	Pass/Fail	
Mechanical Check					
Mainframe	1	Touch Screen	Smooth operation	Pass/Fail	
	2	Recorder	Smooth operation with no abnormal sound	Pass/Fail	
Accessories	1	Power cord	Smooth operation and removal	Pass/Fail	
Electrical Check					
Performance	1	Power supply	Screen display upon power-on	Pass/Fail	
	2	Display	No abnormality and flickering	Pass/Fail	
	3	Printing	Waveform printing possible	Pass/Fail	
	4	Measurement	Proper measurement	Pass/Fail	
Other	1	Clock	Present date/time	Pass/Fail	
General Judgment				Pass/Fail	
Model		X-SCAN PLUS 950		Serial No.	
Installation place				Date of purchase	
Check date		Checked by		Approved by	

If the problems continue, call the service center. When you ask for service, the manufacturer's label, serial number, date of original purchase and explanation of malfunction will be required.

※ For purpose of improvement, specifications and subject to change without notice.

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